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**COVER:** In a practice drill, Navy flight surgeon CDR James Morgan (second from right) and flight deck corpsmen unload a patient from a Search and Rescue helicopter aboard the USS *Independence*. Articles of special interest to flight surgeons and other aviation medical personnel appear in this issue on pages 12-16 and 25-26.

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# from the Chief

*The following excerpt is taken from my address to graduate medical education program directors attending the Specialties Advisory Conference in Washington on 9 September 1975. The message it carries needs dissemination:*

As we move into the mid-range period of our renewal it would be nice if all of our detractors would accord us some benign neglect. But we don't expect it, and often there is little we can do about it.

We do require and expect, however, continued support and advocacy from our own line and secretariat. In recent months we have suffered an ironic erosion of their respect. Their consumer perception of our effectiveness is hardly flattering. Many new flag officers have just arrived in OPNAV, all of them wearing wings, dolphins, and surface insignia. During our crisis years they were out holding operational commands, watching medical officers disappear from the fleet, and they were not privy to our program planning for recovery. To them a doctor is a doctor is a doctor. They have brought to the Pentagon an impatience regarding any further delay in fulfilling the need for operational medical support and primary care. Their ears are critically attuned to such terms as "doctor shortage," "specialty imbalance," "fleet medical pool," and "hospital staffing."

In short, our moratorium on full primary care performance is in jeopardy. Unless this default is corrected very soon our consumers' perception of us will seriously threaten our reputation as a military health care system. This problem, with all its implications and consequences, must now be given top priority attention. We must accelerate into a shortened time frame the filling of empty operational medical billets, both afloat and ashore.

But you and I know this has far greater depth than just a superficial exercise in personnel distribution. If we do not soon succeed in creating an operationally oriented and motivated Medical Corps, we are courting disaster. Success depends on every program director in this room inculcating within his trainees an appreciation that medical support to the fleet is at the very heart of what Navy Medicine is all about. This truism must be taught by example, by impression, by repetition and admonition. We can no longer accommodate—we can no longer afford—the schizoid philosophy that we are health professionals first and naval officers second. Such feigned duality of profile must and will be rolled into one. I urge you to disabuse all trainees in your charge of an ideology that they can wear this uniform and insignia, and yet somehow not join the Navy.





# The Perceived Quality of Health Care and Use of Military Health Facilities

Reuben Harris, Ph.D.

David Whipple, Ph.D.

The military health care delivery system is in a state of flux due in large part to tremendous cost pressures on its operation. The loss of the draft as a source of less-than-market-priced physicians, and the impact of the general inflation in the private health sector have been economic incentives to reexamine the structure of the military health care delivery system. For example, the tri-service experiment is at least partially a result of the desire to eliminate costly duplication of services in regional medical centers occupying the same area. The use of paramedical personnel equipped with triage procedures in acute minor illness clinics, and the establishment of family practice programs which emphasize primary and preventive health care are other attempts of the military medical departments to become more cost-effective in delivering quality health care to the eligible population.

It will come as a surprise to very few readers that many times a disparity exists between the technical quality of the care delivered and the quality as perceived by the patient. The purposes of this paper are:

1) To point out that patient perceptions may have a significant impact on the probability of success of family practice and other innovative programs, and hence on the success of efforts to

reduce the cost of delivering health care to the assigned population;

2) To describe a methodology for determining the perceived quality of care;

3) To report on the results of such a pilot study.

## NATURE OF THE PROBLEM

The problem is quite simply stated: It is difficult, if not impossible, for the patient accurately to assess the technical quality of the health care he receives in most of his contacts with the delivery system. The patient therefore judges on the basis of what he *is* able to perceive, namely the *manner* of delivery. This may be analogous to judging a book by its cover or a product by its wrapping and salesperson, but such judging *is* done and may well have a magnified significance.

It is pointless to argue, as has been done, that it is not the bedside manner or the kind words which cure a patient, but the application of the physician's knowledge, the skill of the nurse, and so forth. We will not deal with the existence and importance of psychological interdependencies as they may affect the efficiency of medical care. The point to be made, rather, is that even if such things had *no* bearing on the effectiveness of health care as delivered, they do impact on the choice behavior of those individuals who may use the system and demand the care.

Families that enroll in a family practice program are assigned a specific doctor from whom they may receive the majority of their primary ambulatory care. However, the dependents of active-duty personnel retain the option of using a civilian doctor and paying only a portion of the cost (after satisfying a deductible) by using the Civilian Health and Medical Program of the Uniformed Services (CHAMPUS). Thus, to the

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This article is based on a portion of a research paper presented at the NATO Conference on Human Factors in Health Care, Lisbon, Portugal, June 1974. Readers desiring more details of the perceptions study should consult the published proceedings of that conference (1).

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extent that one of the intentions of the family practice program is to encourage dependents to use the existing military delivery system in order to minimize the cost of providing health care services, any significant "leakage" from the family practice program to the CHAMPUS/civilian sector may defeat this objective.

If individuals eligible to use the military facilities *perceive* that they will receive better care from a civilian doctor or clinic, they will tend to choose these options. It does little good to argue that the technical quality of care dispensed in the military setting is as good or better than the care available under CHAMPUS if the patient doesn't see it that way.

### PREVIOUS ATTITUDINAL STUDIES

Studies conducted at NRMC Bremerton, Washington (2), and NRMC Long Beach, California (3) have attempted to assess the attitudes of patients toward the medical care they receive at these facilities. The Bremerton survey emphasized the impact of the appointment aspect of the family practice program, and the questions therefore did not allow sufficiently sharp distinctions to be drawn between military and civilian care. The Long Beach study was somewhat more comprehensive and brought out some interesting points. For example, although over 60% of the respondents did not perceive military outpatient care as having a charity atmosphere, the fact that almost 40% of the respondents *did* perceive such an atmosphere to some extent has potentially great ramifications. Since it is likely to be a portion of these previously dissatisfied people who may be attracted by "personalized service" programs such as the family practice program, the continued existence of a significant number of eligible potential patients who are not favorably disposed toward military medicine may restrict the acceptance of such programs and reduce participation. In particular, the conclusion that "the major complaints reported by respondents [queuing, changing doctors, and feeling 'rushed'] may, in fact, be a product of systematic pressures associated with highly structured group practices, and may represent an expression of increased patient expectations" (3) is exactly the type of attitude which the family practice program is designed to change. But if the program is incorrectly structured, this effort may not succeed.

### THE PRESENT STUDY

We designed a methodology to gather from a sample of potential family practice program enrollees data concerning their perceptions and expectations of the health care delivery system. The following information was considered of primary importance:

- The patient's evaluation of the effectiveness of and his satisfaction with the military health facility.
- Where appropriate, the patient's evaluation of the CHAMPUS system (for comparative purposes).
- The patient's preference for the present military system compared to CHAMPUS and the family practice program.
- The patient's opinion of the importance of various aspects of health care delivery on the quality of care.

The following research methodology was employed: The primary data collection method was a self-administered questionnaire. Data were collected from two classes of respondents representing the five naval ambulatory care facilities that comprise the bulk of a naval regional medical system. The regional medical system serves approximately 60,000 patients, with an average of 16,000 weekly ambulatory patient visits. The facilities participating in this research provide 88% of the military ambulatory care for the region; they embrace four branch dispensaries located at major naval facilities in the region, and the ambulatory care clinics of the naval regional medical center. The four dispensaries were chiefly concerned with providing primary care for the system's patients, while the clinics at the regional medical center provided both primary care and specialty care.

The research distinguished between two major classes of respondents: recent patients, and staff personnel. In all five facilities a random sample of recent patients and staff personnel received questionnaires through the mail. Both patients and staff were identified with a specific health care facility. Participation in the study was strictly voluntary. Patients were assured that their decision to participate or not to participate in the study would have no effect on the service they personally received at these health care facilities. Further, participating patients and staff were assured that their responses would be kept confidential.

The rate of participation (return percentage) was moderately good, with overall return rates for all five facilities of 52% for patients and 47% for staff.

Two different self-administered questionnaires were used. The questionnaire mailed to staff members was designed to collect data on several dimensions: client orientation, descriptions of the organizational structure, personal demographic information, and job satisfaction. The questionnaire sent to patients was designed to determine their evaluation of the quality of care provided by the various facilities, and their feelings regarding the importance of various aspects of health care delivery in general; personal demographic information was also collected from each patient respondent.

SURVEY RESULTS

Table I presents the subjective importance rankings of 11 elements of "good" health care as determined by a total of 280 patients and staff members at the five naval medical facilities involved in this study.

Not at all surprisingly, the requirement that the staff be competent and qualified was by far the most important consideration, with 72% of the respondents ranking this item as most important. Not as obvious were those aspects of health care delivery which patients ranked second, third, and fourth in importance: the expectation that the staff will explain things to the patient; will give the patient sufficient time; and will tell the truth. This result is surprising in light of earlier research by Mechanic (4) in which these same three criteria were ranked ninth, eighth, and fifth, respectively.

The rankings indicate that patients place high importance on the health care organization's ability to deal with them in a straightforward, businesslike manner. Patients expect the staff of a "good" health care organization to explain things to them in a way they can understand; furthermore, patients expect the staff to give them sufficient time, and not to rush them through the health care delivery process. Finally, patients expect that the staff of a "good" organization will tell them the truth, and will admit it when they don't know or are not sure of the answers to a question. Each of these three criteria appears to deal with the issue of giving the patient time: of taking the time to explain what is happening, what

is likely to happen, and why a particular action is taken.

There are several glaring discrepancies between the importance rankings given by patients and those given by staff. Specifically, while patients rank as fifth in importance the fact that the staff should proceed in a thoughtful, sympathetic, concerned manner, staff members themselves rank this item as second in importance. Further, staff give low rank (eighth in importance) to the requirement that the system give the patient sufficient time, while patients consider that aspect of health care delivery to be second in importance. Finally, the discrepancy between the rankings given to the requirement that staff listen to the patient is worth noting: staff rank this requirement much higher in importance than do patients.

An important objective of this research was to gain comparative data on patient perceptions of the military health care system relative to CHAMPUS. Approximately 25% of our sample

TABLE I. Comparison Rank-Order of Importance of Criteria in Determining a "Good" Health Care Organization

Criteria	Consensus Rank-Order	
	Naval Patients	Naval Staff
The staff are competent and qualified. They are reliable, thorough, careful, etc.	1	1
The staff will explain things to you.	2	3
The staff give you sufficient time; they don't rush you.	3	8
The staff tell you the truth.	4	5
The staff proceed in a thoughtful, sympathetic, concerned manner.	5	2
The staff follow up after treatment. They call you, or ask you to call them, to find out how you're doing.	6	6
The staff listen to you, they hear you out.	7	4
The staff really care about you and your family.	8	7
When you make an appointment, you are seen promptly at the appointment time.	9	10
When you call to make an appointment, you can get to see the doctor at a time convenient to you.	10	11
The doctors and other staff know your history and remember your name.	11	9

N = 280



had had recent experience with both of these health care delivery systems. As seen in Table II, patients who had had recent experience with CHAMPUS give consistently higher positive evaluations to the CHAMPUS experience than to experiences with the military health care system. In fact, they rate all 11 criteria more positively for CHAMPUS than for the military system. The third column of Table II shows the median scores of evaluations by patients who had not had contact with CHAMPUS during the year prior to this study; these scores therefore represent evaluations of the military health care facilities. It is interesting to note that patients who have not used CHAMPUS are more positive in their evaluation of military health care facilities than are the patients who used both the CHAMPUS and the military systems.

Interpretation of these results is both easy and difficult. The comparative data are not surprising. That patients who use CHAMPUS evaluate this service more positively than the military health

care delivery system is in accord with a great deal of psychological theory about choice behavior and evaluation of foregone or more costly alternatives. It is expected that patients who use CHAMPUS and pay the additional costs involved either really receive some additional valuable services, or else are distorting their impression of the two systems so as to perceive a difference between them. While our data unfortunately do not reveal whether this difference in quality of care is real or perceived, they do demonstrate that a difference exists.

Though important for planning an implementation strategy, the issue of the "reality" of the difference is not important with regard to the *consequences* of the difference. Patients *perceive* the difference as real, and those perceptions probably determine future patient behavior. Similarly, patients who used the military system exclusively viewed that system more positively than the CHAMPUS-and-military patients did; however, the military patients still viewed the military sys-

TABLE II. Comparison of CHAMPUS and Military-Only Patients' Evaluations (Median Scores) of the Quality of Health Care Received at Military and Civilian Health Care Facilities

Criteria	Patient Evaluation Scores*		
	Patients with Recent CHAMPUS and Military Experience		Patients with Recent Military Experience Only
	CHAMPUS System	Military System	
Staff really care about you and your family.	1.56	2.36	2.18
Staff are competent and qualified.	1.00	1.86	1.60
Staff give you sufficient time; they don't rush you.	1.62	2.12	1.79
Staff follow up after treatment.	1.00	2.81	2.78
Staff proceed in a thoughtful, sympathetic, concerned manner.	1.61	2.24	1.89
Staff listen to you, they hear you out.	1.58	2.06	1.75
Staff explain things to you.	1.59	2.07	1.82
Doctors and staff know your history and remember your name.	1.74	3.02	2.93
Staff tell you the truth.	1.77	2.09	1.88
When you call to make an appointment, you are seen promptly at the appointment time.	2.03	3.05	2.53
When you call to make an appointment, you can get to see the doctor at a time convenient to you.	1.82	2.85	2.39

\*"Best" is 1.0

tem *less* positively than CHAMPUS patients viewed the CHAMPUS system. This further suggests the existence of the systematic distortions described above, and therefore suggests that the evaluations of patients with experience only with the military system are unbiased by the comparative CHAMPUS experience. Another possible explanation of the results is that the two groups of patients may have different expectations regarding health care delivery. This latter explanation can be tested using our data.

Table III reanalyzes the rank-order of importance of each of the 11 criteria, differentiating CHAMPUS patients from military-only patients. The median score and the consensus ranking for each item is shown for each group. Both the rankings and the median scores appear to differ. The implications of this difference will be discussed in the conclusions.

One final question: What determines a patient's preference for the present military health care system versus CHAMPUS versus the family practice program? The question of why some patients might prefer military medical care to civilian medical care has been partially addressed, but additional data are available.

First, we attempted to determine the patients' preference for CHAMPUS or military medical care. Patients were asked to indicate whether they in fact generally preferred CHAMPUS to using their specific military facility. We then compared the responses of patients who preferred CHAMPUS with the responses of patients who preferred the military system. This analysis revealed that patients preferring the military system consistently evaluated the military more positively than did the patients who preferred the CHAMPUS system.

A similar study was done on patients who preferred assignment to a military family physician over use of CHAMPUS. This analysis revealed that these patients also consistently evaluated the military facilities more favorably than did patients who preferred CHAMPUS.

Similar results were obtained with patients who preferred the family practice physician concept to the military clinic system. Patients preferring referral to a family physician consistently rated the present military system less favorably than did patients who preferred the present system.

Of the patients who had used CHAMPUS during the year prior to this study, 46% expressed

TABLE III. Comparative Rank-Orders of Importance of Criteria in Determining a "Good" Health Care Organization—CHAMPUS and Military-Only Patients

Criteria	CHAMPUS		Military Only	
	Median Rank	Consensus Rank	Median Rank	Consensus Rank
Staff really care about you and your family.	5.50	6	6.96	8
Staff are competent and qualified.	1.00	1	1.00	1
Staff give you sufficient time; they don't rush you.	5.92	8	4.52	3
Staff follow up after treatment.	5.17	4	5.45	6
Staff proceed in a thoughtful, sympathetic, concerned manner.	5.64	7	4.98	4
Staff listen to you, they hear you out.	5.29	5	5.45	6
Staff explain things to you.	4.70	3	4.43	2
Doctors and staff know your history and remember your name.	8.43	11	8.71	11
Staff tell you the truth.	4.50	2	5.13	5
When you call to make an appointment, you are seen promptly at the appointment time.	7.50	9	7.58	9
When you call to make an appointment, you can get to see the doctor at a time convenient to you.	7.79	10	8.18	10



a preference for the military medical system over CHAMPUS. Overwhelming support was indicated for the family physician idea. Among the CHAMPUS patients 75% preferred the family physician concept over CHAMPUS, and 81% preferred the family physician concept over the present military clinic system. In the military-only group, 89% preferred the family physician program over CHAMPUS, and 76% favored the new concept to the present clinic system.

These findings support the expected conclusion that a preference for either CHAMPUS or the military health care system is determined by the patient's evaluation of the two systems. However, the overwhelming support shown for the family physician concept, especially in light of the less favorable evaluations of the military system, indicate dissatisfaction with the present state of military health care delivery.

### CONCLUSIONS

There are at least two major reasons for establishing the family practice program as an integral part of the military health care delivery system: (1) to provide better quality care (perceived or actual) for eligible recipients, and (2) to minimize the costs of providing care by reducing use of CHAMPUS. Although our study is only preliminary and reveals many areas where further investigation is needed, we believe we can draw some indicative conclusions.

First, there appears to be little doubt that establishing a comprehensive family practice program will increase the perceived quality of care among patients who use the program. This weak conclusion, however, says nothing about the *relative* increase in satisfaction compared to the potential for increased costs associated with a family practice program if there are no accompanying cost savings from decreased use of CHAMPUS. Clearly, the existence of positive benefits from the program does not imply that it should be implemented. This decision requires a comparison of the benefits per dollar spent in the military program and CHAMPUS. Thus, if cost savings were assured from reduced use of CHAMPUS as a result of the inauguration of a family practice program, the expectations of the new program's success would be more justified. Unfortunately, our data is ambiguous: there are some indications that per capita CHAMPUS costs may fall, and

other signs that they may not. The fact that a significantly large group appears to favor CHAMPUS care is both good and bad: if there were not such a group, there would be no potential population to draw into using lower cost military care, and hence no possibility for cost savings with introduction of a family practice program; on the other hand, this group's consistent ranking of CHAMPUS care ahead of military care may mean that these patients could be drawn to regular use of military health care facilities only with great difficulty.

The criteria which patients rank second, third, and fourth in importance are significant to the success of a family practice program. Although major goals of the family practice program are to provide continuity of care and personalized attention, there is nothing inherent in this program which would bolster the patient's belief that the staff was understanding or willing to explain things fully (ranked second in importance). Nor do feelings of receiving sufficient time or not being rushed (ranked third) necessarily accompany the use of the family practice program. Certainly the perception of truthfulness (ranked fourth) may be enhanced when a patient deals with a relatively constant subset of the health delivery system, but this connection too may be tenuous at best.

If the major emphasis of the family practice program is on reducing queuing time and providing more convenient services, the fact that these criteria were ranked low in order of importance to the patient will tend to limit the program's probability of success in drawing patients away from CHAMPUS. In addition, the disparity between patient and staff rankings of the criteria most important in the delivery of health care, if carried into the family practice program setting, would seem to decrease the program's chances of success. In-depth study of these relationships is warranted.

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# MEDICAL EXPLORING: The Earliest Step Into Medicine

In January 1969 at Naval Hospital (now Naval Regional Medical Center) Long Beach, California, a group of interested staff members sponsored the establishment of Post 303, Medical Explorers. The institutional representative was CAPT C.K. Holloway (MC), now retired. Committee members were chairman CDR (now CAPT) Robert Thompson (MC), CDR Richard Flagg (MC), CDR Paul Bradford (DC), and CDR (now CAPT) George B. Hart (MC), who acted as adviser.

The prime objective of the Post is to encourage young men and women interested in careers in medicine to participate actively in medical exploring activities. Members are also encouraged to maintain a B average or better in their schoolwork. The medical explorers meet each Saturday morning for one hour of instruction in first aid, another hour of instruction in some aspect of medicine, and two hours of observation on carefully coordinated ward, laboratory, and X-ray assignments. They also participate in mass casualty exercises, with their center of operation at the hospital.

The medical explorers investigate harmful health habits in their own family, and make an effort to discontinue these habits or replace them with healthy practices. Special emphasis is placed on reducing or avoiding overeating, habitual use of tobacco, harmful drug use, and pollution of the environment. Post members also support combined scouting activities such as the annual Scout-O-Rama, manning the first-aid station at such functions and caring for any minor injuries. And each spring the members help clean, paint, and refurbish a health lodge for the upcoming summer camping period.

The major goal of the Post, however, is to enable each explorer to become familiar with careers in the health care sciences. The members are therefore invited to visit NRMC Long Beach to observe procedures in such professional fields as surgery and medical research.

Membership in the Post has vacillated between 15 and 50 youngsters. The members observe a rating system not unlike that used in the Navy. Medical explorer apprentice is the first step into medical exploring. When youngsters attain the required minimal experience in basic first aid,

they become medical explorers third class; upon completing a nine-month first-aid training course, they become medical explorers second class; finally, after formally instructing in the field of first aid, and having maintained a scholastic level of 85, they are advanced to medical explorer first class. Each medical explorer may then elect to be a specialist medical explorer in such medical specialties as laboratory, radiology, dental, nursing, surgery, internal medical, or pediatrics.

Some 52 former members of the Post are now enrolled in nursing training or premedical activities in colleges and universities. Another 22 members have completed college and are actively involved in medical technology and nursing. Two of the Post's alumni have joined the Navy: one is at the Naval Academy and the other is a hospital corpsman.

The Post participates in the Annual Medical Explorers' Convention at the University of Southern California Medical School, and also has been represented at such medical conventions as the clinical meeting of the American Medical Association held in Anaheim, California, in December 1973.

It is a refreshing experience today, when it often seems that young people are most interested in the frivolities of life, to find so many youngsters anxious to spend their weekends exploring the vital career of medicine.—CAPT George B. Hart, MC, USN, Chief of Surgery, NRMC Long Beach, California 90801. ㊦



Members of Post 303, Medical Explorers, visit NRMC Long Beach to learn more about careers in medicine.

# Determining the Internal Sterility of Silicone Implants

CAPT G.E. King, DC, USN  
J.R. Carlo, B.S., M.S.

Implantation of silicone materials is a widely used technique to restore lost body contours. Medical grade materials specifically made for this purpose include room temperature vulcanizing (RTV) and heat-curing silicones. The RTV materials are mixed in a container or on a mixing pad as the catalyst is incorporated. The heat-curing materials are packed into a mold by adding pieces of stock material.

Prior to curing, the RTV materials produce air bubbles and the heat-curing materials form layers which provide space for microorganisms to be incorporated into the interior of the implant. The manufacturer (Dow Corning Corporation, Midland, Michigan) therefore recommends a meticulous cleaning and sterilizing technique to ensure that the surface of the implant is sterile.

But how can one be sure that this sterilizing technique kills all the microorganisms that may have been incorporated? If not killed, these microorganisms would be released into the surgical site if the implant were subsequently cut, either by trimming or through placement of a suture hole. Clinical experience has shown that some silicone implants have been removed because infection developed at the implant site. But, after the implant is removed, it is difficult to determine whether the source of infection was from the implant itself or was residual within the patient.

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References to commercial supplies and sources should not be construed to imply product endorsement by the U.S. Navy or the naval service at large.

The purpose of our study, therefore, was to determine whether any organisms can remain viable within the implant material following sterilization.

## MATERIALS

Because the technique for manipulating RTV silicones differs from the technique used to manipulate heat-curing silicones, samples of each type of material were tested.

Rather than test every type of pathogenic microorganism, a nonpathogenic spore, *B subtilis*, was selected. The rationale was that spores are more resistant to sterilizing procedures than other organisms. If sterilized material is shown to be free of spores, there should be no chance of other organisms surviving.

The thickness of the material tested is of prime importance. If any organisms were to survive sterilizing procedures, they would be those organisms most deeply imbedded in the implant material. Since even the thickest implant rarely exceeds or even reaches 15 mm, a maximum insulation of 7.5 mm is provided for an imbedded microorganism. If the sterilizing technique kills spores to a depth of 7.5 mm through the silicone material, a surgeon need not avoid trimming or perforating a silicone implant for fear of releasing viable microorganisms into the surgical field.

## EXPERIMENTAL PROCEDURES

Three materials were tested: two medical grade RTVs, and one medical grade heat-curing silicone. Dental flasks were used to hold dental stone molds, each of which contained five cylinder-



shaped specimens of test material. The cylinders measured 15 mm in diameter and 15 mm in height.

Each of the three materials was represented by 15 cylinders divided among three molds (for a total of 45 cylinders and nine molds used in the test). For each material, one mold of five cylinders served as a negative control group. The ten cylinders in the remaining two molds were contaminated with spores. Five of these contaminated cylinders served as positive controls; the other five were sterilized in an autoclave after they were washed.

Each material was used, cleaned, and sterilized specifically as directed by the manufacturer. Each set of five cylinders was carefully examined for defects.

Each set of five cylinders was boiled in non-detergent soap flakes for 30 minutes, rinsed with copious amounts of sterile boiling water, and placed in a surgical pack. The packs were sterilized in an autoclave and delivered to the bacteriologist. Each pack was opened in a sterile environment. Then each cylinder of material was diced into small pieces, which were placed in culture media.

## RESULTS

Following the incubation period for *B subtilis* (the spore being tested), the bacteriologist recorded the test data as determined from the culture media (Table 1). The results were as follows:

- The negative controls for each material tested proved to be negative.
- The positive controls were positive for *B subtilis* in all test cylinders made from the two RTV materials. The cylinders made from the heat-curing material proved to be negative.
- All contaminated cylinders from each of the three materials tested proved to be negative when washed and sterilized in an autoclave according to the manufacturer's directions.

Since the internal sterility of implants is of particular importance to their manufacturers, we performed additional studies to evaluate the sterility of commercially-produced implants. Twelve knuckle implants (Cutter Laboratories, Berkeley, California), each with a cross-section diameter of

7.9 mm, were tested. Six implants were taken directly from their wrappers, marked "non-sterile," diced into small pieces, and incubated in a thioglycollate broth for 72 hours at 37° C. Of these six specimens, five were negative and one showed diphtheroids. The remaining six implants were sterilized in an autoclave for 45 minutes at 121° C. and 15 psi, then were diced and incubated in thioglycollate as described above. These six specimens showed no growth of contaminants.

TABLE 1. Cylinders Showing Spore Contamination

Materials Tested	Negative Control (5 Cylinders)	Positive Control (5 Cylinders)	Washed and Autoclaved (5 Cylinders)
RTV No. 1	0	5	0
RTV No. 2	0	5	0
Heat-curing silicone	0	0*	0

\*The initial cure of the heat-curing material MDX 44516 lasted one hour in an autoclave at 121° C. at 15 psi. This initial cure sterilized these five cylinders.

## CONCLUSION

Medical grade silicone implants with a cross-section diameter of 15 mm or less will not harbor viable organisms if cleaned and sterilized in an autoclave as suggested by the manufacturer.

## SUMMARY

Three medical grade silicone materials used for surgical implants were tested for internal sterility. Fifteen cylinder-shaped specimens, 15 mm in diameter and 15 mm in height, were made of each material. Five cylinders were used as negative controls, five as positive controls, and five were washed and sterilized after being contaminated by a nonpathogenic spore. The test specimens were diced into small pieces and placed into a culture media specific for the spore. Results indicated that adherence to the cleaning and sterilizing instructions of the manufacturer will ensure a sterile implant. A commercially produced implant, with a cross-section diameter of 7.9 mm, was also evaluated. Treating this implant in an autoclave ensured internal sterility. ☸

# The Physiological Cost of Flight Stress and Flight Fatigue

Joan Vernikos-Danellis, Ph.D.  
CAPT Walter L. Goldenrath, MSC, USN  
C.B. Dolkas, M.Sc. (Eng.)

*Flight stress* and *flight fatigue* are terms used interchangeably and indiscriminately to define a host of adverse and, for the most part, subjective symptoms. Attempts to discover a physiological index or correlate of this phenomenon have met with little success. Heart rate, cortisol excretion, and catecholamine excretion *usually* increase in response to a stress stimulus or a stressful situation, but not always. Such increases, while particularly observable in experimental conditions where the subjects are naive volunteers, are often not seen in real-life situations.

Such lack of consistent correlation between physiological response and flight stress conditions has been generally attributed to "individual variation" or to the subject's "experience" or "adaptation." Similarly, in the case of fatigue, particularly with regard to performance degradation as a function of increasing workload, the correlation of some physiological parameter with performance deterioration has also been highly elusive.

Our experience with a considerable number of experimental subjects under a wide variety of conditions such as bed rest (1), confinement (2), and response to  $+G_z$  tolerance and other provocative tests (3-5), as well as under operational con-

ditions, has strongly indicated that individuals show remarkable consistency in their physiological responses to a given situation if environmental variables are controlled. We now believe that variations in responses can largely be explained by variables existing in the situational or experimental environment.

In order to predict how an individual will respond to a given situation, we must know a great deal about certain variables. First, we should know something about the exact conditions in which the individual will find himself: Are these conditions expected or unexpected? Do they represent an inescapable situation? Can the individual cope with these conditions, either because of prior learning or experience, or because of his emotional and personality make-up, his rank, or his social environment? Second, we should know as much as possible about the preexisting state or physiological baseline of the individual: this information could include the individual's age, sex, and clinical history; the time of day when he is expected to operate; his state of hydration, meal and sleep habits, medication, and motivation. We should also be aware of any alterations in his physiological baseline caused by such situational factors as the work shift, light intensity, light spectrum (such as ultraviolet levels and light/dark schedule), environmental gas and pressure conditions, degree of confinement, activity and posture, social structure of his environment (marital, job, family, and community status; psychosocial stresses), amount and composition of meal and fluid intake, and degree of recovery from a previous task or experience.

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At the Ames Research Center, Dr. Vernikos-Danellis is chief, Human Studies Branch; CAPT Goldenrath is staff assistant to the director of life sciences; and Mr. Dolkas is a research scientist with the Human Studies Branch.



Finally, the time of sampling and particularly the reference value or control that is used for the response can particularly influence the interpretation of the data.

This paper will demonstrate how specific situational variables which are encountered in the aeronautical environment and are incidental to the primary task can alter an individual's physiological baseline and response to provocative stimuli or stressful procedures.

Every bodily reaction to the external and internal environment is in some way related to the endocrine system. In order to predict man's reaction to his environment, therefore, we must understand the effect that a particular environment has on the human endocrine system.

The response of the pituitary-adrenal system to a stimulus is well established as a valid indicator of stress. It has also been well accepted that an increase in the intensity of the stressor will result in a proportional increase in the adrenal steroid response. However, studies conducted in animals at the Ames Research Center, Moffett Field, California, indicate that this latter assumption is not necessarily true.

The plasma adrenocorticotrophic hormone (ACTH) and plasma corticosterone responses to electric shock alone or to electric shock plus fighting were measured over time in male rats (Figure 1). The shock lasted five minutes. Animals housed singly and shocked showed a marked increase in both ACTH and corticosterone levels. When shocked in pairs, rats show organized fighting behavior. Rats that received the identical amount of shock but had the opportunity to fight showed a very significant reduction in both the ACTH and the steroid response. This effect was not a function of learning, since it was evident the first time that the animals were subjected to this stress. The results were interpreted to imply that the stress response is inhibited by some central mechanism when animals are given the opportunity to indulge in some form of coping behavior.

Other studies showed a somewhat similar effect on the urine cortisol excretion in three U-2 pilots (Figure 2). Urine was collected one hour before the flight, immediately before the pilots donned their pressure suits, and immediately after the flight. Any urine passed during the flight was also collected. The flights were routinely accomplished every other day commencing at 0900 or 1000, and lasted an average of two hours and 15 minutes, plus or minus 19 minutes. Urine samples were

collected from each of the three pilots on three successive flights, for a total of nine samples. Urinary cortisol was determined using the competitive binding assay of Murphy (6).

A considerable amount of work must be accomplished on these missions; in addition to flying the plane, duties include precise navigation and taking photographs as part of the earth resources program. Subjective evaluation of these flights, derived from an analysis of responses to a questionnaire, indicated that the pilots experienced no unusual complications or excessive fatigue. Urinary cortisol was no higher at the end of the flight than before, but instead showed either no change or a marked reduction. This inhibition of cortisol excretion was even more evident inflight.

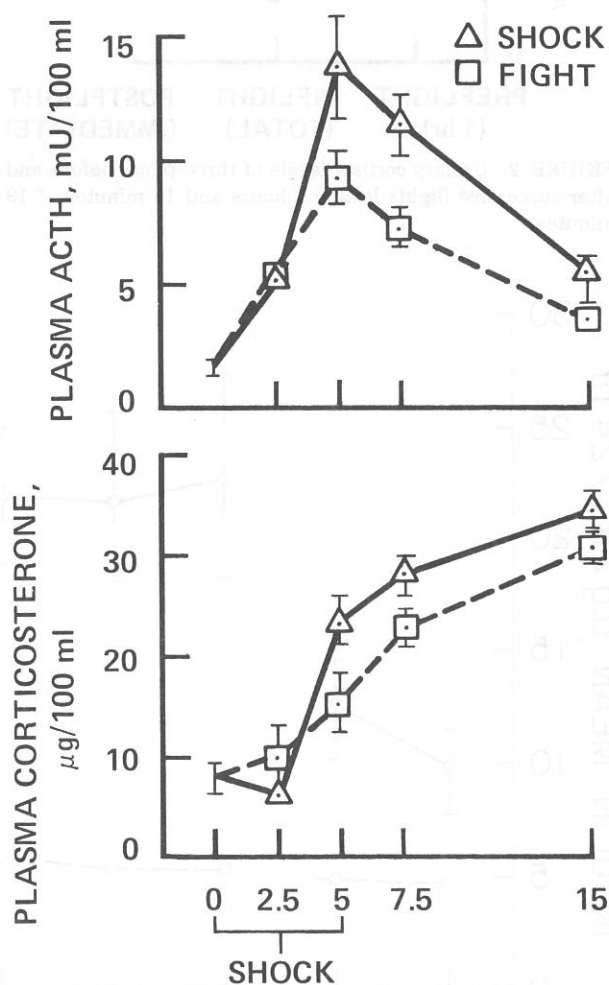


FIGURE 1. Plasma ACTH (upper graph) and corticosterone (lower graph) response to five-minute shock stress. Ninety electric shocks per session were administered through foot pads. Rats in the fight group (□) were placed in the chamber in pairs; rats in the shock group (Δ) were shocked individually.

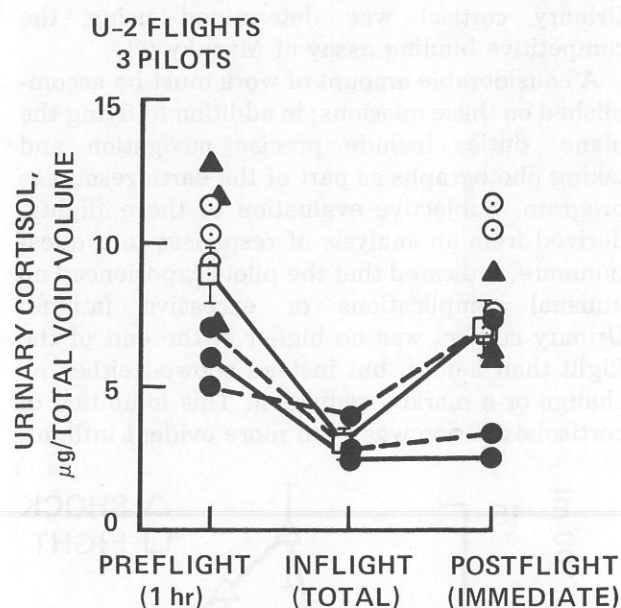


FIGURE 2. Urinary cortisol levels of three pilots before and after successive flights lasting 2 hours and 15 minutes,  $\pm$  19 minutes.

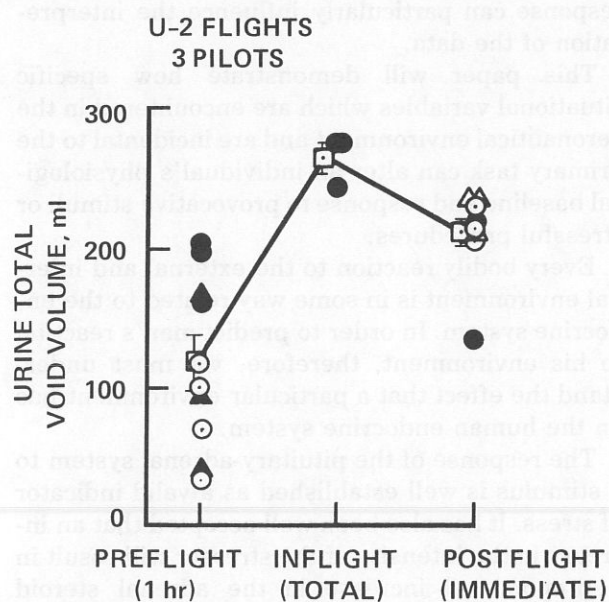


FIGURE 3. Urine volume of three pilots before and after successive flights lasting 2 hours and 15 minutes,  $\pm$  19 minutes.

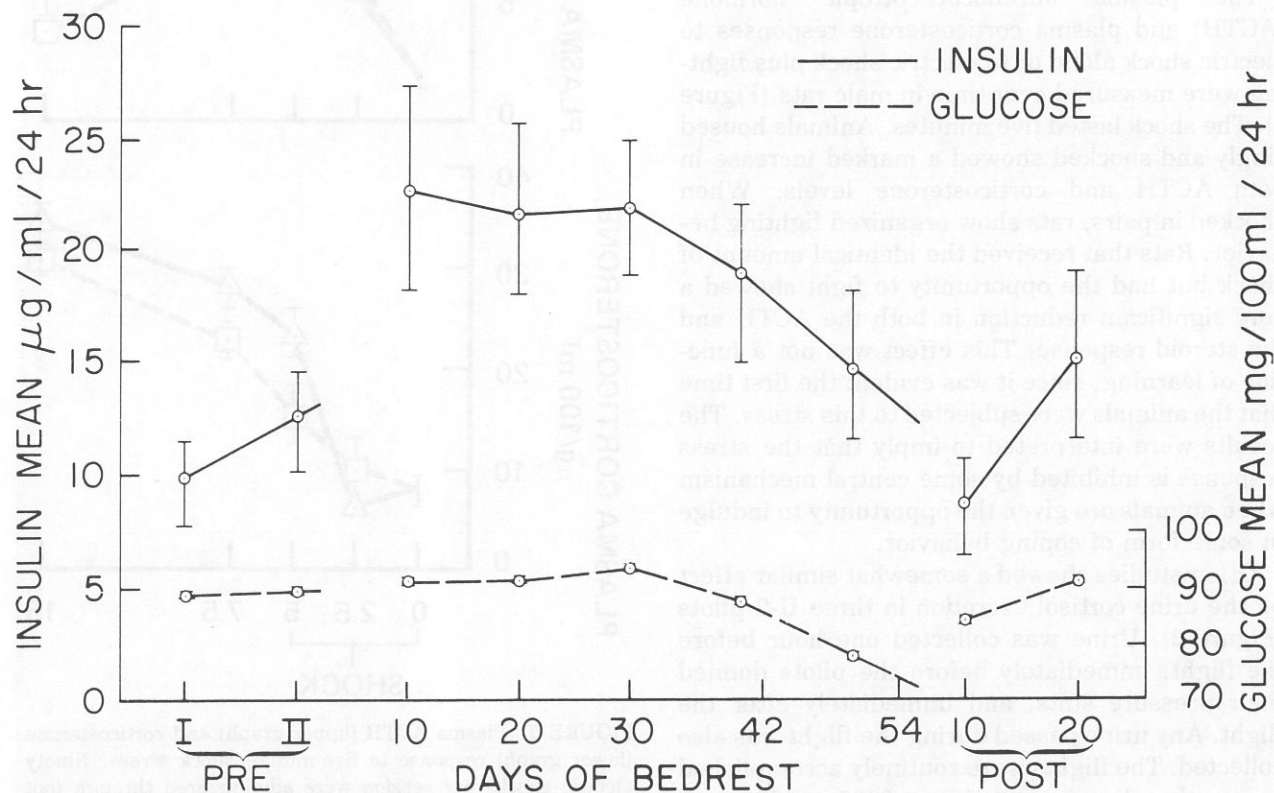


FIGURE 4. Changes in plasma glucose and insulin levels in five male subjects during 56 days' bed rest.

The data suggest that, in experienced pilots under highly complex flight conditions which can be anticipated and overcome, the pituitary-adrenal system does not show a passive lack of response but is actually actively suppressed.

There was also no evidence of antidiuresis in these pilots (Figure 3); rather, diuresis both inflight and postflight suggested that the inhibitory mechanisms suppressing the pituitary-adrenal system may also be reducing neurohypophyseal antidiuretic hormone (ADH) secretion. This and considerable evidence from animal work (7) led us to the conclusion that what the pituitary-adrenal system responds to is "change," as perceived by the central nervous system. When no "change" is perceived there is no response or, in fact, a suppression of the pituitary-adrenal system.

One of the situational variables inherent to flight is confinement and prolonged sitting. Prolonged sitting is known to induce changes in plasma volume and fluid distribution similar to but milder than the changes caused by bed rest (8). Other similarities apparently exist in the area of glucose homeostasis. Several investigations have reported that various degrees of inactivity result in an apparent inefficient handling of glucose. Naughton and Wulff (9) found that the insulin response to a glucose load is much greater in sedentary men than in active persons, but that the disappearance of glucose is the same. This effect is even greater in individuals confined to bed for as little as one week (10), and is most exaggerated in individuals confined to bed for the longest period of time (11).

The daily mean plasma glucose and insulin concentrations in five male subjects at bed rest for 56 days are shown in Figure 4. Samples were collected every 4 hours for 24 hours. Each point represents the integrated mean of these six values for the five subjects. Mean glucose concentrations remained unchanged or showed a slight increase during the first 30 days of bed rest, despite a marked increase in mean daily insulin levels. With prolonged exposure to bed rest insulin began decreasing toward pre-bed rest levels, and glucose followed with a similar reduction to below control levels. By the 54th day of bed rest the glucose level was considerably reduced ( $p < 0.05$ ), reaching a level of 75 mg/100 ml/24 hr and showing levels as low as 62 mg/100 ml at 1600.

Figure 5 shows some results of the response to a glucose load in six healthy young men before and after 14 days of bed rest. The exaggerated insulin

response to the oral glucose and the lesser glucose tolerance after bed rest are particularly apparent. These effects could not be completely reversed by a vigorous exercise regimen (12).

Bed rest also resulted in very wide diurnal fluctuations of plasma insulin and glucose levels. This effect was also observed for all hormones measured (13).

These results indicate that in bed rest greatly increased circulating levels of insulin are required to maintain glucose levels. The apparent insensitivity of glucose to insulin, the greater lability of the circulating glucose and insulin levels, and the inappropriate response to oral glucose suggest that relatively short periods of bed rest alter the basal physiological homeostatic mechanisms. The likelihood that similar effects may result from prolonged or repeated sitting presents the possibility that inappropriate responses in performance or other physiological parameters, as well as

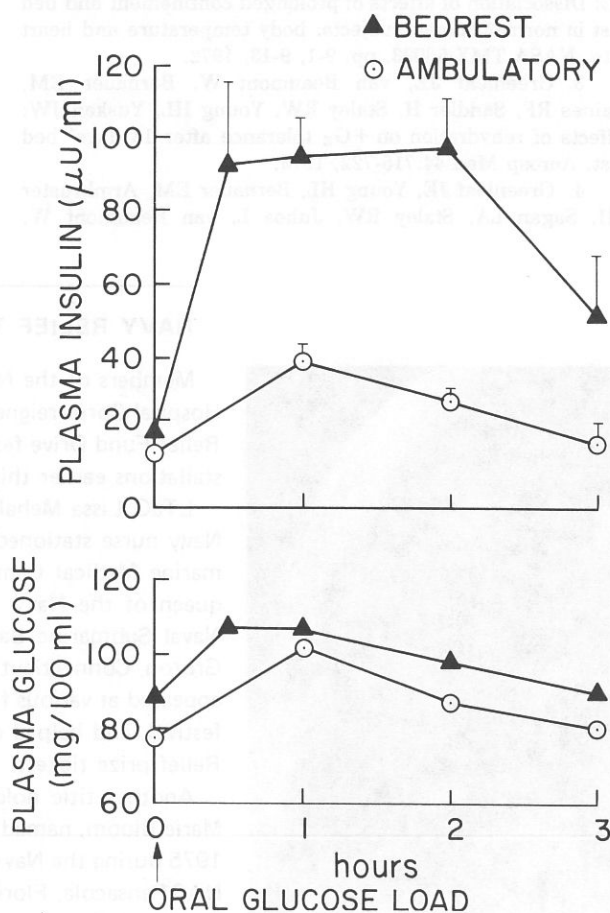


FIGURE 5. Plasma glucose and insulin levels in male subjects, ambulatory and at bed rest, in response to an oral glucose load.



subjective feelings of fatigue, may not be directly proportional to the workload or task. Rather, these inappropriate responses may be indirectly influenced by alterations in the physiological baseline caused by the single or cumulative effects of some specific situational factor, such as posture.

Ample evidence suggests that exposure to prior stressful conditions creates a susceptibility to infection, drugs, or a subsequent stressor (7,14). The ability to cope with an unexpected stressor or other provocative stimulus, and particularly the physiological cost suffered in the process of responding, will therefore most definitely be a function of the individual's preexisting physiological state.

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#### NAVY RELIEF TITLE WINNERS

Members of the Nurse Corps and the Hospital Corps reigned as queen of Navy Relief Fund Drive festivities at naval installations earlier this year.

LTJG Lissa Mehallick, NC, USNR, a Navy nurse stationed at the Naval Submarine Medical Center, was crowned queen of the Navy Relief Festival at Naval Submarine Base New London, Groton, Connecticut. She and her court appeared at various functions during the festival, and helped draw winning Navy Relief prize tickets.

Another title holder was HN Pamela Marie Bloom, named Miss Navy Pensacola 1975 during the Navy Relief fund drive at NAS Pensacola, Florida. She is assigned to the Naval Aerospace and Regional Medical Center's Wave and Civilian Sick Call Section at the branch dispensary.



HN Bloom



LTJG Mehallick

# Navy Medicine

## 1875

NORTH ATLANTIC STATION.—Surgeon Edward Kershner reports on conditions aboard the USS *Swatara*:

The wardroom is ventilated by means of a large hatch opening through the quarter-deck, a large hatch leading from beneath the break of the poop to about the centre of the wardroom, and a small hatch leading from the poop-deck to the pantry at the extreme after part of the wardroom. The body of the wardroom (the country) is sufficiently well ventilated, and the air-space pure and healthful, providing the doors into state-rooms are closed. The rooms themselves, in which the officers are supposed to live and sleep, could not possibly have air in a more vitiated state than it is. The gaseous emanations from the bilge are conducted directly into the rooms by means of large apertures opening over the "knees" in the timbers. These apertures have a diameter of 4 inches, and an average length of about 3 feet, and there are two in each room: at times the air is unbearable and the rooms uninhabitable; a sheet of bibulous paper, saturated with a solution of acetate of lead, and placed over one of these apertures, or even in the room, becomes blackened from the quantity of sulphuretted hydrogen in the air. The effect of sleeping in such an atmosphere is as follows: You awake in the morning feeling dull and unrefreshed, with a frontal headache, a dry, parched throat, and an excessive thirst, with a bad taste in the mouth, and a poor appetite. The effect of sleeping in such an atmosphere for many nights consecutively would undoubtedly be to seriously impair the health. Weather permitting the officers usually sleep in the open air upon the poop. During the last two months nearly every officer has suffered more or less from exposure to these poisonous gases in the hot weather of the tropics; and, in some cases, officers are almost unfit for duty from the debility and loss of health attending this exposure.

The remedy for such a state of things is quite apparent. To prevent the odor of the bilge being detected on the berth-deck would necessitate a change in the construction of the ship. It will

probably at some day become apparent that a ship should be ventilated by tubes leading to the spar-deck, and not below on the berth-deck, where there is no opportunity for the odors to escape. Stopping the apertures, although it mitigates, does not altogether alleviate the evil. More or less of the gases find their way through cracks. The bilge itself is almost a necessary accompaniment to a ship; a "sweet bilge," if ever found, is almost an anomaly. Numerous organic substances find their way from time to time into the bilge. These decompose, and the gaseous emanations find their exit at the most convenient places. Much can be done to prevent substances getting between the flooring and the bottom of the ship, such as oil from the machinery, various substances from the paymasters' storerooms, etc. When once there, it is almost impossible to thoroughly cleanse it, as the greater portion of the decaying animal and vegetable matter will be found inaccessible. Disinfectants to destroy the odor are often as bad as the odor itself, and also ineffectual as remedial agents. This whole subject has been discussed in a former report to the Surgeon-General. At that time it was supposed that, as the ship was undergoing repairs, these defects would receive proper attention, inasmuch as the efficiency of the ship depends largely on the vigor and health of her officers and crew; but, much to my surprise, the ship was ordered to sea with only a few copper strips nailed loosely over some of the apertures on the berth-deck, and now this great evil remains in the same state as when the ship was first laid up for repairs. The best-directed and most persevering efforts of the officers of the ship have thus far proved futile, and the offending matter can neither be reached nor removed. To attempt to impress upon the bureau the extreme danger of this state of affairs in a tropical climate would be a reflection upon its intelligence. Every hygienic law having been disregarded thus far in the construction of our ships, I would suggest the propriety of having a medical officer to inspect ships *under construction*, and report deficiencies in this respect before it is too late to change or remedy defects.—*Hygienic and Medical Reports by Medical Officers of the U.S. Navy*, prepared for publication, under the direction of the Surgeon-General of the Navy, by Joseph B. Parker, A.M., M.D., Surgeon, U.S. Navy, Assistant to the Bureau of Medicine and Surgery. Washington: Government Printing Office, 1879, pp. 6-8. ☞



## **SHORSTAMPS DEVELOPMENT UNDER WAY**

Shore Requirements, Standards, and Manpower Planning System (SHORSTAMPS) is a manpower planning system currently being developed under the auspices of the Assistant Secretary of the Navy (Manpower) and the guidance of the Chief of Naval Operations. Its purpose is to provide Navy with a tool for determining the minimum numbers and types of billets and civilian positions each Navy shore activity requires to accomplish its assigned mission. Once fully operational, SHORSTAMPS will provide BUMED and each commanding officer with the capability to assess and analyze future manpower requirements as missions, functions, equipment, technology, and workload change.

SHORSTAMPS is composed of two subsystems: (1) Shore Required Operational Capability (SHOROC), and (2) Navy Staffing Standards. Both subsystems are now in the development stage. All BUMED-managed activities are currently involved in procedures basic to the development of SHORSTAMPS. The system will be fully operational in 1980.

OPNAVINST 5310.12, dated 15 Nov 1974, defines and explains SHORSTAMPS. The Manpower Management and Requirements Division, Code 37, is the liaison and coordination point in BUMED for this program.

## **REGIONALIZATION ENTERS PHASE III**

Phase III of Navy medical activity regionalization involves evaluating actions to determine how effectively original objectives were met. To establish a systematic and reliable means of evaluation, a group has been formed with representatives from BUMED Codes 02 and 72, and the Naval School of Health Care Administration. Representation is sought from management assistance group of Naval Audit Service. First steps: preliminary index of measures, survey of literature, and preparation of methods of evaluation.

## **MEDICAL SUPPORT TO MILITARY SEALIFT COMMAND**

Plans are being developed to ensure improved medical support to the Military Sealift Command. Actions include: complete revision of Military Sealift Command Medical Manual; updating of authorized medical allowance lists for Sealift ships; development of a surface medicine program for Sealift similar to support provided other Navy fleets by BUMED Code 52; development of a medical information system in Sealift to identify shipboard medical practice and problems; consideration of Sealift representation within BUMED Code 5.

## **NUVA-LITE ACTIVATORS RECALLED**

Naval dental personnel were recently directed to stop using the Nuva-Lite Activator because of hazardous emission of ultraviolet light from the appliance. All activators with serial numbers under 51000 were included in this suspension.

All personnel with Nuva-Lite Activators should write or telephone the manufacturer, give the serial number of the unit, and request disposition instructions. Address: L.D. Caulk Co., Division of Dentsply International, Inc., Milford, Delaware 19963. Toll-free telephone: (Area Code 800) 441-8255.

## **IMMUNIZATION ACTION MONTH**

October is Immunization Action Month. Our recent experiences with Southeast Asian refugee children showed that the "usual childhood diseases" are still prevalent in most parts of the world. Prompt administration of measles, mumps, rubella, polio, and tetanus-diphtheria-pertussis vaccines in the resettlement camps helped prevent the appearance of some diseases and the epidemic spread of others.

During Immunization Action Month, Medical Department personnel should endeavor to review and update the immunization status of the populations for whom they are responsible. It might be especially useful to begin with our own immunization records and those of our dependents.

#### FITNESS REPORTS REQUIRED DURING TRAINING

Fitness reports are required on all officers on active duty in health profession scholarship programs, in clinical or research clerkship training, and during periods of ACUTRA for officers not on active duty full-time.

It may be difficult to observe the performance of officers training in civilian schools, or to obtain meaningful reports of their class standing. However, COs of such officers should try to obtain progress reports on each individual, and should attach the school's evaluation to the officer's fitness report.

Reserve naval officers assigned as liaison officers to selected medical and dental schools may be reliable sources of information and assistance in obtaining student evaluations. Contact BUMED Code 314 (medical) or Code 6 (dental) for the name of the liaison officer at any specific school.

#### FREE MEMBERSHIP OFFERED IN AMA

Free membership in the American Medical Association is available to medical officers of the USN and USNR. Officers on active duty for more than two years may request active membership. They pay no dues, but enjoy the same rights and privileges of regular members. Active members, however, must pay for any AMA publications they wish to receive.

Medical officers on duty for two years or less may request associate membership. Associate members may attend Scientific Assembly meetings, but may not vote or hold office in the AMA. They, too, must pay for AMA publications.

For further information, contact: Lloyd W. Prang, director, Department of Membership Statistics, American Medical Association, 535 N. Dearborn Street, Chicago, Illinois 60610.

#### DENTAL RESERVE SYMPOSIUM SET

A Navy Dental Corps Reserve Symposium will be held on Monday, 27 October 1975, in conjunction with the annual session of the American Dental Association in Chicago, Illinois. Location: Room F, McCormick Place. Program consists of presentations by VADM D.L. Custis (MC), chief of the Bureau of Medicine and Surgery; RADM R.W. Elliott, Jr. (DC), assistant chief for dentistry and chief, Dental Division; CAPT N.D. Wilkie (DC), head, Appointment and Assignment Section, and head, Reserve Section, Personnel Branch. A film, Navy Dentistry—The Way It Is, will also be shown.

A reception will be held on Sunday, 26 October 1975, at 1930 in the Waldorf Room of the Conrad Hilton Hotel, Chicago. All USN and USNR dental officers, on active and inactive duty, as well as officers in student programs, are urged to attend these events.

#### NEW BUPERS BILLET FOR HM/DT DETAILING

CDR Thomas J. Rucker (MSC) fills a new BUPERS billet as head of the Medical/Dental Assignment Branch (Pers-517) for enlisted personnel. LT Robert W. Boyles (MSC) continues as rating assignment officer (Pers-5171). This organizational change will give BUPERS additional expertise and assistance when making decisions affecting enlisted Medical Department personnel and programs. 🇺🇸

# Coming and Going

(Partial listing. See also Semiannual Roster in *U.S. Navy Medicine* 66[3]:29-35, September 1975.)

**RADM M. CONDER, NC, USN**

From: NRMCM Philadelphia, Pa.

To: Director, Nursing Division, BUMED Code 32

**RADM W.L. DARNALL, JR., DC, USN**

From: CO, NDC Camp Pendleton, Calif.

To: CO, NRDC San Diego, Calif.

**RADM R.C. LANING, MC, USN**

From: Flt Surg, COMSERVPAC

To: Asst Ch for Operational Medical Support,  
BUMED Code 5

**RADM W.M. LONERGAN, MC, USN**

From: CO, NRMCM Charleston, S.C.

To: Inspector General Medical, BUMED Code  
007

**RADM C.L. WAITE, MC, USN**

From: Asst Ch for Operational Medical Support,  
BUMED Code 5

To: Deputy Chief of Bureau, BUMED Code 01

**CAPT J.H. BAKER, MC, USN**

From: Dir, Undersea Med Div, BUMED Code 53

To: Ch Occupational Health Service, NRMCM  
Philadelphia, Pa.

**CAPT J.E. CARR, MC, USN**

From: NRMCM Yokosuka, Japan

To: Head, Professional Branch, BUMED Code 311

**CAPT E.C. COWART, JR., MC, USN**

From: CO, NH Port Hueneme, Calif.

To: Dep Dir, AFIP, Washington, D.C.

**CAPT H.E. GLICK, MC, USN**

From: NRMCM Bremerton, Wash.

To: Dir, Undersea Med Div, BUMED Code 53

**CAPT A.A. HELGERSON, MC, USN**

From: CO, NH Key West, Fla.

To: Navy Council Personnel Board, Office of Navy  
Disability Evaluation, Washington, D.C.

**CAPT C.M. HERMAN, MC, USN**

From: NMRI, Bethesda, Md.

To: Dir, Clin Investigation, HSETC, Bethesda, Md.

**CAPT R.W. JONES, MC, USN**

From: Div Surg, 3rd MARDIV, Okinawa, Japan

To: Surface Medicine Div, BUMED Code 52

**CAPT M.T. LYNCH, MC, USN**

From: Professional Publications Officer, BUMED  
Code 0010

To: NRMCM Newport, R.I.

**CAPT W.M. MC DERMOTT, JR., MC, USN**

From: Asst Head, Training Branch, BUMED Code  
316

To: Med Dept Education and Training, BUMED  
Code 0011

**CAPT H.T. MUMME, DC, USN**

From: NSA New Orleans, La.

To: Retirement

**CAPT D.A. MURRAY, MC, USN**

From: CO, NRMCM Yokosuka, Japan

To: Dir, Med Education, NNMCM, Bethesda, Md.

**CAPT E.H. PRESCOTT, JR., MC, USN**

From: CO, NH Lemoore, Calif.

To: NARMCM Pensacola, Fla.

**CAPT D. REID, MC, USN**

From: Industrial College of Armed Forces,  
Washington, D.C.

To: Planning and Special Projects, BUMED Code  
3113

**CAPT B.C. SHARP, DC, USN**

From: XO, NDC Camp Pendleton, Calif.

To: CO, NDC Camp Pendleton, Calif.


**CAPT R.W. STEYN, MC, USN**

From: Ch Neuropsychiatry, NRMCM Oakland, Calif.

To: Head, Psychiatry Branch, BUMED Code 313

**CAPT M.I. VARON, MC, USN**

From: Dir, Armed Forces Radiobiology Research  
Institute, Bethesda, Md.

To: Dep CO, NMRDC, Bethesda, Md. 



# Filipinos Train at NH Subic Bay

"Filipino-American relations couldn't be better," says Dr. Josephine A. Borja of Greenhills, Rizal, Republic of the Philippines, while describing her medical training at an American military medical facility. She is participating in the residency program for Filipino physicians at the U.S. Naval Hospital, Subic Bay.

Dr. Borja is one of six Filipino physicians now in the first phase of a two-year residency training program at the hospital. Both the residency and the medical technologist training programs are conducted in cooperation with three leading Filipino universities.

"At first," Dr. Borja says, "like most Filipinos, I was somewhat sensitive and inhibited in my professional relationship with American dependents. However, I'm better adjusted now and understand the American people so much better. I've found them to be very vocal and candid in expression, yet sincere and friendly. I've already made many American friends."

The only child of a retired Filipino Army colonel, Dr. Borja says she wanted the U.S. Navy residency training to gain practical experience in various medical fields under American Board-certified specialists. "There are few hospitals around Manila that offer a program similar to this one," she adds.

A 1973 graduate of the University of the East, Ramon Magsaysay Memorial Medical Center in Manila, Dr. Borja completed her internship at the local Veterans Memorial Hospital. After she passed the National Medical Board Examination, she had further medical training at the rural health unit in Cagayan Valley.

According to CDR Melvin Q. Antonio (MC), chief of surgery at the naval hospital, the aim of the residency program is to train new Filipino physicians in the specialties they will encounter in medical practice. "We provide training in a hospital atmosphere similar to the average community hospital in the United States," Dr. Antonio explains.

The executive officer, CDR G.W. Baldauf (MSC), says Filipinos who complete the residency or medical technology program find themselves qualified to render high quality professional medical care and treatment.

Dr. Borja finds most American patients to be very conscious of the importance of health care. "I associate this with the easy availability of medical facilities in the United States, and the excellent patient follow-up procedure system," she says.

The Filipino resident physicians meet with patients, prepare preliminary reports and diagnoses, and discuss cases with the Navy medical officers. They assist during surgery, and deliver babies. All requests for laboratory work, X-ray examinations, and special treatments are approved by the naval medical officers, but the residents are allowed as much professional freedom as possible.

Dr. Borja finds that the complex medical experiences and responsibilities she has had at NH Subic Bay have helped her gain more self-confidence in handling patients. "I would definitely advise other Filipino doctors to apply for the program," she says. "I think they'd gain from the same experiences I am now enjoying. The Navy medical doctors I work with are so very accommodating. They willingly share their professional expertise."

Other Filipino physicians in the medical residency program are Dr. Noe A. Alvendia, Dr. Josefina I. Cruz, Dr. Nilo A. Neri, Dr. Abraham L. Quiranta, and Dr. Felipe A. Salvador.

In addition, for the past year eight Filipino medical technologists from universities in the Manila area have been training in medical laboratories at the naval hospital. The primary purpose of the one-year medical technology program is to give these medical technologists the necessary experience to sharpen their practical skills in laboratory work. The technologists benefit from the teaching skills of the hospital staff, learning new methods to introduce and adapt elsewhere after their internship is completed.

In the words of CDR Lowell J. Brown (MC), chief of professional services, "The bright young Filipino resident physicians and laboratory technologists at NH Subic Bay are doing a superb job. Their professional enthusiasm keeps the teaching staff on its toes, and helps us achieve high morale and better patient care."—JOC R.A. Graddick, PAO, Commander U.S. Naval Base, Subic Bay, Republic of the Philippines. ☸

# SCHOLARS' SCUTTLEBUTT



Through this "Scholars' Scuttlebutt" column, we try to acquaint you with the broad perspective of Navy medical practice. We hope this information will help you develop early in your career a sense of commitment to the Navy.

This month LCDR Leslie C. Ellwood (MC), a Navy pediatrician at VADM Joel T. Boone Clinic, Little Creek Amphibious Base, Virginia, explains his reasons for choosing a Navy medical career. His experience is typical of the satisfaction and fulfillment many medical officers have found in the Navy, even if the rest of us do not express ourselves so well.

We hope his article will give each of you an appreciation of the possibilities and promise of careers in Navy medicine.

## WHY I STAY NAVY

LCDR Leslie C. Ellwood, MC, USN

Professional fulfillment, personal satisfaction, and an acceptable life-style are reasonable and major concerns to any man or woman contemplating a career in Navy medicine. The current pay scale for military physicians and the many changes affecting civilian medical practice have made a Navy career competitive in most medical specialties. But I believe that many physicians will

find in Navy medicine great personal satisfaction as well. Superb training, highest quality medical standards, variable options in forms of practice, opportunity for personal development, and the reward of commitment are just a few of the attractions.

Navy postgraduate training programs give the new physician a good opportunity to develop specialty skills under instruction by both military and civilian affiliated-medical-center specialists. Although some Navy teaching hospitals could be considered spartan in amenities, their diagnostic and therapeutic equipment and paramedical staff are always excellent. The active-duty, dependent, and retired population we serve presents the widest variety of disease entities.

Those of us who trained in military hospitals have found that our experience in outpatient clinics and in long-term patient care, added to the usual residency experience of inpatient care, has prepared us most realistically for practice. Instructors are primary-care physicians who actively practice their specialties—a role model infrequently found in civilian academia. There is also considerable encouragement to participate in clinical research.

Similar high-quality training for operational specialties, such as aerospace or underwater medicine, increases the potential practice of the medical officer. Many physicians combine operational and medical specialties during their careers, a combination of skills highly beneficial to the Navy.

The Navy physician is free to provide outstanding medical care to each patient. Except for the reasonable limitations of a budget and normal concern for cost-effectiveness, the physician need not constantly monitor office expenses, payrolls, and bills. Unlike the proposed national health insurance plan, we don't have to submit forms, justifications, and itemized bills in order to provide high-quality care.

Navy patients are provided all necessary diagnostic tests or therapeutics. The diagnostic excesses of "protective medicine" and overuse of medications to save patients the expense of repeated laboratory tests or return visits are eliminated. However, it is expected that Navy doctors will develop clinical skills and judgment consistent with established medical audit criteria.

Because continuing education is essential to maintain high professional standards, the Navy provides funds for civilian medical consultants,



in-hospital medical continuing education programs, and attendance at medical conferences and symposia. By taking advantage of all these opportunities, you can keep up with medical advances and share ideas with your military and civilian colleagues. When I was a physician in a nonteaching hospital, I participated in 60 hours of lectures each year, attended at least one medical meeting annually, and had frequent telephone contact with noted consultants; this was in addition to daily rounds and local conferences. (For the last few years the Navy budget for medical meetings has not always been sufficient to cover the expense of every physician's preference; but rarely has the military physician been denied the time he or she needs to attend.) Finally, because military medicine is a group practice, constant formal and informal peer review motivates us all to maintain the highest professional standards.

A variety of assignments allows each Navy physician to develop a unique career. Duty assignments in operational medicine, dispensaries, hospitals, research, or administration are available. And almost all Navy physicians enjoy the stimulation of occasional changes in the type and location of their work. Family-accompanied tours in overseas hospitals are favored posts; less attractive sea duty will be shared by groups of physicians in three-month rotations.

While our professional efforts support the military community, our Navy medical practice gives us the time and opportunity to develop ourselves personally through research projects, education, professional and social organizations, family activities, sports, and hobbies. Travel and occasional station changes provide new resources for self-expression. The Navy physician shares fully in family life while providing top-notch medical care to patients.

Finally, a career in Navy medicine encourages the physician to fulfill an ego-satisfying commitment to the nation. Navy physicians and their families share the honorable tradition of service in support of the nation's defense. For us, this tradition goes back 200 years.

During his or her career, the Navy physician will play the important roles of personal health care provider and counselor, adviser to employers, and specialized arbitrator. Using our significant voice in the personal and official affairs of our patients, we can be influential in determining a sailor's job or work location; we can help eliminate

health hazards in the work environment and improve working conditions; we can rehabilitate the alcoholic or mentally ill individual for return to duty.

Our personal aspirations to serve mankind are satisfied when we help individuals attain security or reach their life goals, or when we participate in international research or assistance activities.

I have found countless rewards and satisfactions during my career in Navy medicine. It has been a privilege to contribute to the health and well-being of the nation's military men and women and their families. But don't take my word for it. Stay Navy, and see for yourself. ☙



SCUTTLEBUTT

The origin of the word "scuttlebutt," which is nautical parlance for a rumor, comes from a combination of "scuttle," to make a hole in the ship's side causing her to sink, and "butt," a cask or hogshead used in the days of wooden ships to hold drinking water; thus the term scuttlebutt means a cask with a hole in it. "Scuttle" describes what most rumors accomplish if not to the ship, at least to morale. "Butt" describes the water cask where men naturally congregated, and that's where most rumors get started. The terms "galley yarn" and "messdeck intelligence" also mean the spreading of rumors and many, of course, start on the messdeck.

# NOTES & ANNOUNCEMENTS

## AMSUS TO HOLD 82ND ANNUAL MEETING

Emphasizing the theme, "Quality of Health Care: A National Issue," medical department officers and civilians of the Armed Forces, Veterans Administration, and HEW/Public Health Service will convene for the 82nd annual meeting of the Association of Military Surgeons of the United States (AMSUS), to be held at the Shoreham-Americana Hotel, Washington, D.C., 10-14 December 1975.

Directing the meeting is AMSUS president John D. Chase, M.D., chief medical director of the Veterans Administration. Mr. A.A. Gavazzi, director of the VA Hospital, Washington, D.C., has been appointed general chairman for the meeting. Paul A.L. Haber, M.D., deputy for clinical services, Department of Medicine and Surgery, VA Central Office, is chairman of the Scientific Program Committee; co-chairman is Edgar A. Reed, M.D., deputy for ambulatory care, Department of Medicine and Surgery, VA Central Office.

The conference will feature exhibits and films as well as scientific meetings. Topics to be discussed at the scientific sessions will include alcohol and drug dependence, cardiac surgery, hypertension, ambulatory care, and renal disease.

For further information write: AMSUS, 10605 Concord Street, Suite 306, Kensington, Maryland 20795.

## RADM JOHN HARPER DIES AT 84

Retired RADM John Harper (MC), who commanded Naval Hospital Bethesda during most of World War II, died on 29 July 1975 at the age of 84.

A native of Philadelphia, RADM Harper graduated from the Medico-Chirurgical College there in

1913, and was appointed an assistant surgeon with the rank of LTJG in the Navy Medical Corps in 1915. Early in his career he served in the USS *Arizona* and USS *Chester*, as well as in the Virgin Islands.

RADM Harper spent most of his 36-year career in the Washington, D.C., area, serving at the Naval Medical School, at NH Washington, D.C., and as CO of NH Bethesda (1942-1945). His duties at the Bureau of Medicine and Surgery included service as editor of the *Naval Medical Bulletin* (1932-1933), OIC of the publications branch,



RADM Harper

head of the professional division, and inspector general of the Medical Department. He also served as medical officer of the 13th Naval District, Seattle, Washington. At the time of his retirement in 1951, he was medical officer of the 3rd Naval District in New York, and a member of the staff of the Commander, Eastern Sea Frontier.

RADM Harper's awards included the Legion of Merit "for outstanding services . . . in the planning, development, and establishment" of NH Bethesda.

## NRMC PORTSMOUTH SETS NURSING WORKSHOPS

The following formal nursing education programs will be offered at NRMC Portsmouth, Virginia, during Fiscal Year 1976:

*Coronary Care Unit Paramedical Workshop*  
(Basic course for paramedical personnel only)

Dates: 3-21 November 1975

Open to: Paramedical Nursing Service personnel at NRMC Portsmouth, Navy-wide, and tri-

service. Paramedical Nursing Service personnel in the Tidewater area may attend by invitation.

*Critical Care Paramedical Workshop*  
(Basic course for paramedical personnel)

Dates: 1-5 December 1975

Open to: Paramedical Nursing Service personnel at NRMC Portsmouth, and Navy-wide. Tri-service paramedical Nursing Service personnel may attend by invitation.

*Coronary Care Unit Advanced Workshop for Professional Personnel*

Dates: 2-20 February 1976

Open to: Professional Nursing Service personnel at NRMC Portsmouth, Navy-wide, and tri-service. Professional Nursing Service personnel in the Tidewater area may attend by invitation.

*Critical Care Advanced Workshop for Professional Personnel*

Dates: 15-26 March 1976

Open to: Professional Nursing Service personnel at NRMC Portsmouth, Navy-wide, and tri-service.

*Coronary Care Unit Paramedical Workshop*  
(Basic course for paramedical personnel)

Dates: 3-21 May 1976

Open to: Paramedical Nursing Service personnel at NRMC Portsmouth, Navy-wide, and tri-service. Paramedical Nursing Service personnel in the Tidewater area may attend by invitation.

*Critical Care Paramedical Workshop*  
(Basic course for paramedical personnel)

Dates: 7-11 June 1976

Open to: Paramedical Nursing Service personnel at NRMC Portsmouth, Navy-wide, and tri-service.

For further information, contact: LCDR Shirlee C. Hicks, NC, USN, educational coordinator, NRMC Portsmouth, Virginia 23708.—BUMED Code 32.

## HOSPITAL CORPS LISTS URGENT NEEDS

Many Hospital Corps training quotas for Fiscal Year 1976 are filled. However, there is an urgent need for applications in the following specialties: HM-8402, nuclear submarine medicine technician; HM-8407, nuclear medicine technician;

HM-8483, operating room technician; HM-8492, special operations technician; and HM-8493, medical deep sea diving technician.

Training is also available in these specialties: HM-8482, pharmacy technician; HM-8485, neuropsychiatry technician; HM-8486, urology technician; HM-8495, dermatology technician; HM-8502, basic histology technician; HM-8504, basic cytology technician; HM-8505, cytotechnology technician; and HM-8506, advanced medical laboratory technician.

Training for pharmacy technicians has been reduced from 36 weeks to 23 weeks. The obligated service for this training is 32 months.

Requests for training in specialties not listed above cannot be honored. Neither can applicants be placed on advance lists for Fiscal Year 1977 quotas, since requirements in the various specialties cannot be predicted. Quotas for FY77 will be announced in *U.S. Navy Medicine* when they are known.

Formal training of electrocardiography technicians has been discontinued. Personnel and billets currently designated HM-8453 will be redesignated HM-0000. Commanding officers may initiate local on-the-job training programs in electrocardiography techniques as needed.—BUMED Code 34.

## REMINDERS FROM PHYSICAL QUALIFICATIONS SECTION AEROSPACE MEDICINE DIVISION

The Physical Qualifications Section, Aerospace Medical Division (BUMED Code 5111) has noted several recurring problem areas. The following suggestions are offered in order to provide more efficient service to the naval aerospace community.

*Limited duty for personnel on flight status.* As a matter of policy, an individual who has been placed on limited duty for medical reasons, and is therefore unable to be fully employed in his warfare specialty, is considered to be physically incapacitated for flying duties. Therefore, when flight personnel are placed on limited duty, BUMED will automatically find them not physically qualified (NPQ) for all duty involving flying (DIF) until they are returned to full duty. Their entitlement to flight pay ceases, and flying proficiency declines. Normally, this is an unfortunate but clearly unavoidable situation.



However, in some cases the recommendation of the Medical Board was apparently made primarily to prevent the transfer of the patient away from the physician who wished to follow the case. In addition, in some orthopedic cases the Board has recommended a limitation on duty no more restrictive than "no running, no lifting of heavy objects." Although valid, these recommendations probably could have been accomplished by liaison with the command, especially with the flight surgeon, rather than by formal Medical Board action that costs the individual considerable money and flying proficiency.

When aware of the problems that "administrative" limited duty imposes on the aeronautical status of aviators, Medical Board members are often willing to vote for full duty. There is usually an informal agreement that the flight surgeon will observe the aviator to assure that the medical or surgical follow-up desires of the Board are met. Better communication is the answer.

*The review process.* BUMED Code 5111 reviews every case that is submitted. However, problems arise when a case is submitted with an unusual or possibly controversial recommendation unsupported by any history, narrative summary, or physical data. In such cases, the report is sent back to the field with a letter requesting that specific information be submitted. A great deal of time and energy is wasted.

Physicians submitting a physical with a recommendation other than the usual "physically qualified (PQ)" should carefully review the report from the standpoint of an evaluator who does not know the patient or his problem. Be sure that the facts presented on paper really support the recommendation.

*Completeness of physicals.* Although the importance of including all required data, particularly information required on the back of Standard Form 88, is obvious, deficiencies in this area still account for most of our return correspondence to field activities. The problem is particularly acute when the physical concerns an applicant for student naval aviator training. In this case, the omission of one fact, even something as simple as the statement that the refraction is by cycloplegic, will *always* result in the physical examination report being returned. The resulting frustration and delay may cause the applicant to lose interest in the program.

Flight surgeons and aviation medical officers are encouraged to make a mat that aviation

examining room personnel can use to check the SF88 for completeness. Simply glue an SF88 to a piece of cardboard, and cut out blocks wherever a number or statement is required. When this mat is placed over the SF88, any missing item should be immediately obvious. (It helps to paint the mat black after cutting out the blocks, so the printing is not distracting. The white paper of the SF88 being reviewed is then clearly highlighted against the black mat.)

*Administrative delay in submission of physicals.* Considerable time can pass from the date a physical examination is accomplished until the completion of the typewritten copy ready for signature. Usually this delay causes no problems. However, if a solo/pilot-in-command waiver or an applicant's status depends on the physical report and its endorsement or approval, delay is unacceptable.

Flight surgeons should monitor the dates on the physicals they are signing or reviewing. If excessive delay seems apparent, locate and correct the administrative bottleneck.—BUMED Code 5111.

## DENTAL CONTINUING EDUCATION COURSES SET FOR DECEMBER

The following dental continuing education courses will be offered during the month of December 1975:

*National Naval Dental Center, Bethesda, Maryland*

Endodontics 5-7 December 1975

*Eleventh Naval District, San Diego, California*

Occlusion 1-3 December 1975

*U.S. Army Institute of Dental Research, Walter Reed Army Medical Center, Washington, D.C.*

Preventive Dentistry 8-11 December 1975

*Letterman Army Medical Center, San Francisco, California*

Current Concepts in  
Restorative Dentistry 1-4 December 1975

BUMEDNOTE 1500 of 12 June 1975 should be consulted when applying for dental continuing education courses, with the exception of courses administered by the Commandant, Eleventh Naval District. These requests should be sub-



mitted to the Commandant, Eleventh Naval District (Code 37).

Cross-country travel for dental continuing education courses and professional conferences will generally *not* be approved because of funding limitations. Similarly, travel from outside CONUS will generally not be approved.—BUMED Code 6.

### DENTAL CORPS CASUALTY TREATMENT TRAINING PROGRAM

The Navy Dental Corps Casualty Treatment Training Program provides casualty treatment training to all recently appointed dental officers, and career dental officers who have not had such training for five years or more.

During Fiscal Year 1976, casualty treatment training will be given at:

*Naval Regional Dental Center, San Diego, California*

11-16 November 1975

2-5 March 1976

9-12 March 1976

Requests for attendance must be submitted in accordance with COMELEVEN NOTICE 1550 of 1 September 1975.

*Naval Regional Dental Center, Norfolk, Virginia*

19-23 January 1976

20-24 September 1976

Requests for attendance must be submitted in accordance with COMFIVE/COMNAVBASE NOTICE 6600 of 14 July 1975.

*Naval Regional Dental Center, Great Lakes, Illinois*

12-16 January 1976

19-23 January 1976

Requests for attendance must be submitted in accordance with COMNINE NOTICE 6600 of 5 September 1975.

Funded attendance at a casualty treatment training course does not disqualify a dental officer from being funded to an additional dental continuing education course or professional conference during the same fiscal year.—BUMED Code 6.

### DT3 WORKMAN RECEIVES NAVY COMMENDATION MEDAL

DT3 Morris L. Workman recently received the Navy Commendation Medal for meritorious achievement while serving in the USS *Independence* (CV-62). On 22 September 1974, in Naples, Italy, DT3 Workman provided prompt emergency first aid to another sailor from the *Independence* who was lying severely injured in the street after being hit by a bus. DT3 Workman cleared the victim's throat, administered mouth-to-mouth resuscitation, and continued his treatment in the ambulance until the patient arrived at the hospital. His aggressive, quick, and cool action, which undoubtedly saved the victim from choking to death, was in the Navy's highest tradition.—PAO, USS *Independence*.



DT3 Workman

### ORAL BIOPSY SERVICES AVAILABLE

Two oral biopsy services are available to serve Navy dental facilities on the east and west coasts. The address of the east coast service is: Commanding Officer, Oral Histopathology Center, National Naval Dental Center, Bethesda, Maryland 20014. The address of the west coast facility is: Commanding Officer, Oral Histopathology Section, Department of Laboratory Medicine, Naval Regional Medical Center, San Diego, California 92134.

Recently, on the east coast, specimens have been lost because of an inordinate amount of damage to the mailing containers. In order to correct this problem the kits obtained from Bethesda will contain a new metal can with return address attached. When specimens are forwarded, both the specimen bottle and NDW-NNMC Form 6600/4 should be placed in the metal container, which is then placed in the outside mailer.

Both facilities try to issue a diagnostic report within 24 to 48 hours after the specimen is received, although more time is needed to process hard tissues which require decalcification or the use of additional special stains to arrive at a definitive diagnosis. Any diagnosis of malignancy or other ominous disease process is reported to the contributing facility by telephone, telegram, or

radio message, with a subsequent written report.

To obtain the best possible service, personnel submitting specimens should:

- Place the facility's name and the name of the patient on the specimen bottle.
- Tightly secure the bottle cap to prevent leakage.
- Use tape rather than the already applied gum to secure the address label to the outside mailer. Be certain that the facility's return address is in the upper left-hand corner of the label. These steps will help ensure rapid recycling of the kit and return to *your* facility.
- All bone lesions must be accompanied by X-rays, which will be returned with the report.

Requests for biopsy kits should be forwarded to the nearest oral biopsy service. Questions or problems should be brought to the attention of these facilities either in writing or through the following Autovon numbers: Bethesda, 295-0306; San Diego, 727-3850, ext. 2502/2503.—BUMED Code 6.

#### OFFICER INDOCTRINATION SCHOOL PROGRAMS CONSOLIDATED

The orientation program for dental students held at the Naval Officer Indoctrination School, Naval Education and Training Center, Newport, Rhode Island, has been consolidated with the naval orientation courses of the Nurse Corps, Judge Advocate General Corps, Civil Engineering Corps, and nuclear power instructors. Although only Reserve officers in dental student programs may attend this course, classes for other staff corps may contain graduates ordered to permanent active duty immediately following indoctrination.

Indoctrination lasts six weeks. The classroom curriculum consists of ten units of instruction. Units one through six are core topics, important to the development of each officer regardless of professional specialty. These units relate to general military and management skills (specifically naval tradition and seapower), administration and career development, military law, human resources management, health and physical fitness, and standard military drill instruction. The remaining four units of the curriculum are *track courses* that have direct application or are of special interest to each officer's specialty.

Dental students participating in this indoctrination must use government messing and berthing

facilities. In addition, there is strict adherence to extensive training regulations. Students are appointed to positions in the student administrative and watch organizations.

Dental students eligible for indoctrination must be participants in one of three dental student programs: Early Commissioning Program (1925I), Armed Forces Health Professions Scholarship Program (1985), or Navy Dental Scholarship Program (1925A).—BUMED Code 6.

#### ERRATUM

A photograph in the August 1975 issue of *U.S. Navy Medicine* erroneously identified LT H.P. LeBlanc, DC, USNR as serving with the Fleet Marine Force in Vietnam in August 1962. Navy dental support was not provided in Vietnam until June 1965. A more accurate cutline for the photograph is: "August 1962: LT H.P. LeBlanc, DC, USNR, attached to the 2nd Dental Company, 2nd Marine Division, FMF, Camp Lejeune, North Carolina, provides dental care in the field."

#### LT PERRY IS FIRST GRADUATE OF NAVY PODIATRY RESIDENCY

LT Dennis R. Perry, MSC, USNR is the first graduate of the First-Year Podiatric Residency Program at NH Beaufort, South Carolina. The program, the first of its kind in the Navy, was established 1 July 1974, and is approved by BUMED and the American Podiatry Association. Program director for the 1974-75 year was LCDR Lionel J. Comeaux, MC, USNR; director for the 1975-76 year is LCDR Fred V. Orcutt, MC, USNR.



LT Perry receives his certificate of residency in podiatry from CAPT C.W. Bramlett (MC), CO of NH Beaufort.

LT Perry is now assigned to NRMCC San Diego, for duty at the local Naval Training Center.—PAO, NH Beaufort, South Carolina.

### RESERVISTS SPEND BUSY SUMMER

The Naval Regional Medical Center Reserve Unit 3413, the first of the restructured reserve groups to come on a 12-day active duty cruise, recently spent their period of active duty at NRMCC Great Lakes, Illinois, serving in the Military Personnel Service, emergency room, pharmacy, X-ray Department, infectious disease ward, laboratory, cast room, and occupational therapy, surgery, and Ob/Gyn clinics. Unit CO is CDR Theodore Schafer, MC, USNR-R.

Unit members also participated in a group career counseling session with HMC Joseph D'Angelo, command career counselor. A three-hour seminar with the staff of the Alcoholic Rehabilitation Center was held, and, as an added benefit, HMC Jay Scaturro arranged with the Commander Coastal River Division 21 for the members of the unit to take a short cruise with the crew of PTF 17.

Early in April, Naval Reserve Dental Company 6-3 of Charlotte, North Carolina, reported for

active duty to Camp Lejeune. Training included participation in the activities of the Tank Corps, amphibious vehicles, and the rifle range, as well as seminars with the base dental company.

Also in April, CDR George J. Hill, MC, USNR-R, of St. Louis, Missouri, received the Navy and Marine Corps parachutist's badge in ceremonies at the U.S. Naval Reserve Center, Lambert Field, St. Louis. CDR Hill was designated a Navy parachutist effective 10 January 1975, when he completed his tenth and qualifying jump at 3,000 feet from a CH-46 helicopter at Quantico, Virginia. Relatively few medical officers have qualified for this award during drills as a Ready Reservist.

Designation as a naval parachutist requires completion of basic airborne training (a three-week course in which five parachute jumps are performed from aircraft in flight) and five subsequent jumps under competent orders. A satisfactory standard of medical and physical fitness must be maintained.

CDR Hill is executive officer of Naval Regional Medical Center 5014, St. Louis, and naval medical liaison officer at Washington University, St. Louis. In civilian life he is professor of surgery and chief of the Washington University Surgical Service at St. Louis City Hospital. A general and thoracic surgeon who specializes in cancer research and treatment, he is the author of two books and more than 50 scientific articles.

CDR Hill has been a Navy Reservist since 1968, having previously served in the U.S. Marine Corps Reserve and the U.S. Public Health Service Reserve. As a drilling reservist or in periods of ACDUTRA, he has served in Vietnam, the Republic of the Philippines, Hawaii, Alaska, and at the naval medical facilities in San Diego and Camp Pendleton, California, and Bethesda, Maryland.

### COMPUTERS SUPPORT MEDICAL DEPARTMENT PROGRAMS

In recent years the use of computers at Navy Medical Department activities has increased the current automated data processing equipment inventory to 37 digital computers: 22 used for business or management applications, 14 for medical research applications, and 1 for the Laboratory Information System (LABIS), a clinical application. The computers in the current inventory range in



Navy Reserve physician CDR G.J. Hill has been designated a Navy parachutist.



size from minicomputers to medium-scale computers; the range will probably be broadened to include a large-scale computer when the in-house computer system at Naval Medical Data Services Center is upgraded in the near future.

In the coming years the use of computers for clinical applications is expected to increase substantially, including implementation of dedicated minicomputers. The number of computers at medical research activities is expected to remain stable or increase only slightly. Research activities will make even greater use of data communications terminals in a time-sharing mode than they do at present, using remote computers to satisfy expanding and new automated data processing requirements. There will be a continuing need for analog computer systems and minicomputers for data requisition and control of ongoing experiments.

Data processors of business and management applications will take greater advantage of automated data processing service centers being established by the Government throughout the country, and also of the increased availability of commercial time-sharing services which should become more cost effective and responsive to customer needs. The number of remote job entry terminals at these activities will therefore increase, with corresponding decreases in in-house computers. By using remote job entry terminals, activities will be able to acquire the services of remote computers with much greater capacity and capability than could ever be justified on an in-house basis. This mode of operation will help to reduce automated data processing requirements in such areas as equipment spaces, utilities, and operator personnel.—Naval Medical Data Services Center *Notes*, No. 32, 1 August 1975.

### LEAVE POLICY CHANGED

There's been a change in the Navy's annual leave policy: your time of departure must be after normal working hours unless it's a holiday:

BUPERS Notice 1050 terminates the practice of counting the day of departure on annual leave as a day of duty without regard to the hour the member actually starts leave. The notice eliminates what was generally called a "day of grace" in leave accounting procedures. The day of return shall continue to be counted as a day of duty unless the member returns after 0900.

This change was instituted by a Department of Defense order which directed all services to eliminate days of grace in leave accounting. According to the Bureau of Naval Personnel, the new instruction will ensure compliance with the intent of the original BUPERS instruction.

Originally members desiring to take annual leave reported for duty on their day of departure, ensuring that reliefs were briefed and duties completed. Since personnel were required to report before checking out and often were required to perform their routine duties, BUPERS chose to count the day of departure as a day of duty.

But the instruction's original intent was circumvented when members were allowed to depart for leave before normal working hours started, thereby avoiding duty and gaining an unchargeable day of leave. The new policy is expected to correct any situation wherein an individual may start his leave before working hours by telephoning his command.

For further information concerning leave computation, refer to SECNAV Notice 1050 (12 March 1975) and BUPERSMAN 3020220.—NAVNEWS, 8 August 1975.

### DEADLINE FOR FILING CHAMPUS CLAIMS NEARS

Beneficiaries of the Civilian Health and Medical Program of the Uniformed Services (CHAMPUS) should be aware that 31 December 1975 is the deadline for filing claims for medical care services and supplies provided during calendar year 1974.

CHAMPUS officials are concerned that many beneficiaries may not know about this deadline. A claim for services or supplies received during 1974 will not be considered if it is filed after 31 December 1975.

A similar deadline will be in effect in future years. Claims must be filed by the last day of the calendar year following the year in which the services and supplies are received. For example, claims for services and supplies received during 1975 must be filed no later than 31 December 1976.

CHAMPUS beneficiaries are advised not to delay filing their claims. "If you delay preparing and filing a claim until the last minute, something unexpected might happen to prevent you from getting it in the mail in time to be considered for payment," one CHAMPUS official points out.

CHAMPUS beneficiaries who have received services or supplies from a civilian source who agreed to submit a claim directly to CHAMPUS should check with the source if there is any doubt about whether or not the claim has been submitted. The civilian source should be reminded of the 31 December 1975 deadline. If the civilian source cannot file the claim by that date, beneficiaries should make arrangements to file it themselves.—OASD(M&RA).

### HEALTH CARE CONTEST SEEKS COST-SAVING IDEAS

Ideas and suggestions describing new ways to deliver health care services in a more effective and cost-efficient manner are being sought by the Health Industry Manufacturers Association. Some \$10,000 in awards for the best entries is offered, including a first prize of at least \$2,500 and several additional awards of \$500 to \$1,000.

Entries are being sought from all members of the health care community as well as from members of the general public. The aim of the program is to find ways to help reduce or control health care costs to the user, and to make these new ideas widely known throughout the health care community.

Entries should consist of a 100-word summary, with up to 500 words of additional explanation. Economic or scientific data may be attached if the author considers this essential to the evaluation of the idea, but are not encouraged and should be as concise as possible.

Entries must be received at the Association by 1 November 1975. The address is: Cost Control Awards Program, Health Industry Manufacturers Association, 1030 15th Street, N.W., Washington, D.C. 20005.

No entry forms are required. Rights of first publication must be granted HIMA through 30 June 1976. Winners will be selected by a panel of judges and announced by 1 January 1976. Judges include: Ms. Jerry G. Peers, executive director, Association of Operating Room Nurses; Ms. Eileen M. Jacobi, executive director, American Nurses Association; Ms. Adrienne Astolfi, director, Hospital and Health Care Sector, National Commission on Productivity; Dr. Malcolm Todd,

immediate past president of the American Medical Association; Dr. John Dennis, dean of the University of Maryland Medical School; Dr. James G. Harding, president and chief executive officer, Wilmington Medical Center; Dr. Gary L. Filerman, executive director, Association of University Programs in Health Administration; and syndicated columnist Ann Landers.

### QUARTERLY INSPECTIONS OF MICROWAVE OVENS

A recent change to Chapter 1 of NAVMED P-5010 requires visual inspections of microwave ovens, and recommends quarterly inspections for radiation leakage.

Visual inspection should be performed as part of the weekly sanitation inspection. Most operating manuals discuss what to check for in a visual inspection, and how to clean and maintain the oven. But few describe how to test for radiation leakage.

In order to check for radiation leakage, a good survey meter is needed. The Navy Environmental Health Center, Cincinnati, Ohio, recommends either of the following instruments: Narda Mini-Surveyor Kit, Model 8200 (FSN 6665-00-526-0432), or Holaday Microwave Survey Meter, Model HI-1500 (FSN 6665-00-110-8750).

The recommended procedure for checking radiation leakage is: (1) place container of 150 ml water in oven; (2) close door and turn oven on; (3) slowly move probe around the edge of door, grill, and hinges; (4) if you get any reading, stop, rotate the probe, and see if the reading increases. The actual power density is the average of highest and lowest readings.

Remember: Federal law now requires all microwave ovens manufactured after October 1971 to meet the following requirements: (1) leakage less than 1mW/cm<sup>2</sup> at time of purchase; and (2) leakage less than 5mW/cm<sup>2</sup> after use. If your ovens do not meet these standards, or if there are any of the problems mentioned above, remove them from use until they are corrected.

A short bulletin, "Microwave Cooking Ovens," is available from the Navy Environmental Health Center in Cincinnati.—LTJG M.G. Knight, MSC, USN, in *NEHC Occupational Health Notes*, Vol. II, No. 3, Sep 1975.

## AMERICAN BOARD CERTIFICATIONS

(Subspecialties are indicated in parentheses)

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## OFFICIAL INSTRUCTIONS AND DIRECTIVES

BUMEDINST 1520.14C of 2 June 1975

*Subj: Full-time duty under instruction for Nurse Corps officers; application for and administration of*

Nurse Corps officers who meet eligibility requirements set forth in this instruction may apply for:

- Undergraduate and graduate programs in nursing service administration, nursing education, nursing research, and clinical specialties;
- Training leading to certification as a nurse anesthetist;
- Training leading to an M.S. degree in management;

- Training as a family nurse practitioner, pediatric nurse practitioner, or Ob/Gyn nurse practitioner.

Applications may be submitted via the chain of command any time during the year to CO, HSETC (Code 7), Bethesda, Md. 20014. A sample application is included with this instruction.

An active-duty obligation of two years is incurred for the first year of instruction or part thereof, with an additional year of service incurred for each additional year of instruction or part thereof.

If selected, officers shall make final enrollment arrangements with the university designated by HSETC, and shall forward a letter of admission and a registration date to HSETC Code 7. Officers

will then be nominated for orders to full-time instruction. The command to which an officer will be assigned during instruction will be designated in the orders. Upon reporting to that command, officers shall forward three copies of endorsed orders to HSETC Code 7 to expedite payment of tuition and fees.

Disenrollment shall be effected by the Chief, BUMED for unsatisfactory academic performance or for other reasons which preclude continuation in the program.

Upon completion of instruction, participants shall forward an official final transcript or certificate to the Chief of Naval Personnel via HSETC Code 7. Nurse anesthetists shall also forward certification as a registered nurse anesthetist.

#### BUMEDINST 6300.3

Change Transmittal 3 of 4 June 1975

##### *Subj: Inpatient Data System*

This transmittal provides page changes for BUMEDINST 6300.3 of 10 March 1972. The requirement is reinstituted for submission to the Naval Medical Data Services Center, Bethesda, Maryland, of monthly data cards for an individual naval medical treatment facility (separate unit identifier code) within a naval medical region or U.S. naval medical region. All other reporting facilities will continue to report directly to Naval Medical Data Services Center, Bethesda, Maryland.

Data from individual reporting facilities will be compiled into a regional report by the Naval Medical Data Services Center. Regional medical centers and U.S. naval regional medical centers *will not* submit consolidated data cards using the regional unit identifier code as previously required.

#### BUMEDINST 6230.11G of 11 June 1975

##### *Subj: Malaria; control and prevention of*

Effective malaria control includes vector control, personal protective measures, and chemoprophylaxis. Fleet and force commanders with units subject to operations in malarious areas should direct subordinate commands to maintain adequate supplies for malaria control, and to use these supplies when advised to do so by medical authority.

COs of these units shall also ensure that adequate supplies for malaria control are maintained, and that all persons are placed on chemoprophylaxis prior to actual deployment. In addition, COs shall ensure that all personnel are instructed in malaria prevention, and that strict "malaria discipline" is observed when indicated.

Prior to deployment to malarious zones, fleet and force medical officers shall advise their commanders whether or not malaria control measures are needed. They shall ensure that effective instruction is provided in the prevention, recognition, and treatment of malaria, emphasizing the recommended chemoprophylactic regimen and personal protective measures.

Medical officers shall become familiar with the diagnosis, treatment, and prophylaxis of malaria before deploying to a malaria transmission zone, and shall train themselves to recognize the side effects of antimalarial drugs. These officers shall develop malaria education programs within their units, and supervise the chemoprophylaxis and therapy of malaria.

Flight surgeons shall periodically (preferably weekly) evaluate all aviation personnel who are on malaria chemoprophylaxis. All flight personnel who are under *therapy* for malaria shall be grounded until resumption of flight status is approved by a flight surgeon. The *prophylactic* use of primaquine may occasionally result in side effects sufficiently severe to require temporary grounding.

Medical Department personnel shall also assure that each person departing a malarious zone has sufficient medication to complete "terminal prophylaxis" as outlined in enclosure (1) of this instruction. Departing personnel should be reminded of the potential for initial symptoms of malaria to appear weeks or even months later, and should be informed of the possibility for relapse even if previously treated for the disease; they should inform future attending physicians of their service in a malarious area, and of the antimalarial medications taken.

Persons suffering from "blackwater fever" or other severe hemolytic reactions to malaria shall appear before a medical board and shall not be subsequently assigned to an area endemic for malaria. However, cerebral malaria is not a contraindication for reassignment to a malarious zone.

Malaria cases shall be reported in accordance with BUMEDINST 6220.3A. BUMED Code 55 shall be informed of existing strains of malaria

suspected to be drug resistant, or when use of chemoprophylactic agents results in the appearance of adverse or unusual drug reactions.

BUMEDINST 5450.74A of 13 June 1975

*Subj: Organization manuals; preparation and submission of*

This instruction sets forth procedures to be followed by all BUMED command activities except naval medical centers, naval hospitals, naval regional medical clinics, naval dispensaries, naval regional dental centers, and naval dental clinics when preparing and developing organization manuals. Current organization manuals shall be maintained and shall contain statements on the activity's status; assignment of command, support, and area coordination; mission; and functions. Manuals shall also contain:

- A master organization chart (see enclosure [1] of this instruction).
- An organization chart for each service.
- Brief functional statements for each component shown on the chart.

Copies of new or revised organization manuals, or changes thereto, shall be sent to BUMED Code 72. A listing of all organization charts (including date of approval) in effect as of 31 December shall be sent to BUMED by 15 January of each year. Separate listings of personnel or manpower totals are not to be included.

BUMEDNOTE 1500 of 12 June 1975

*Subj: Medical Department education and training programs*

Medical Department education and training functions occupy three organizational levels:

*Echelon 2:* Special Assistant for Medical Department Education and Training, BUMED, who advises the Navy Surgeon General on education and training matters, including establishing policy, program response to training requirements, approval of recommended priorities, and support of resource requirements.

*Echelon 3:* HSETC, whose CO implements policy and exercises management control of health sciences education and training programs under the immediate direction of CHBUMED.

*Echelon 4:* Subordinate training activities and education and training functions provided in BUMED commands which have a primary mission other than training.

Programs included with the mission and scope of HSETC are: graduate medical education, including military medical specialties; professional board examinations, full-time and part-time out-service training, and attendance at short courses, seminars, and institutional workshops for all corps; inservice training for hospital corpsmen and dental technicians; consultant and lecture programs; indoctrination and orientation programs for newly reporting reserve personnel; Clinical Investigation and Visiting Foreign Military Programs; production and distribution of certain training aids; specialty and academic accreditation programs.

Information about these programs may be obtained from CO, HSETC, NNMC, Bethesda, Md. 20014. Appropriate HSETC corps codes are: Clinical Investigation Program, Code 3; Medical Corps, Code 4; Dental Corps, Code 5; Medical Service Corps, Code 6; Nurse Corps, Code 7; Hospital Corps, Code 8.

BUMEDNOTE 6150 of 18 June 1975

*Subj: Standard Form 518, Blood or Blood Component Transfusion*

SF 518 (Revised April 1974), Blood or Blood Component Transfusion, is available in packages of 100 through the Cognizance Symbol "1I" supply system (stock number 0109-LF-000-5180). All previous editions of SF 518 should be destroyed. Requisitions for the initial order of the new edition should be limited to a three-month supply.

BUMEDINST 6530.9C of 23 June 1975

*Subj: DOD Blood Program—mobilization planning factor for whole blood, electrolytes, and colloids*

The enclosure to this instruction provides basic guidance for planning blood requirements in support of military operations. Navy and Marine Corps commands shall use the prescribed terminology and planning factors in computing mobilization blood product requirements for treating casualties.



BUMEDINST 7301.3W of 23 June 1975

*Subj: Temporary duty travel costs of Army and Air Force patients in naval activities*

This instruction provides accounting classification data for use when transferring Army and Air Force patients during FY 1976.

BUMEDINST 6470.14 of 27 June 1975

*Subj: Laser health standards*

This instruction establishes the American National Standard for the Safe Use of Lasers, ANSI Z136.1-1973 (approved 26 April 1973) as the Navy standard for laser health hazard evaluation, control, and protection programs. Medical surveillance shall be carried out in accordance with these standards, with risk classification of personnel performed by the laser safety officer.

If injury is observed following an individual's exposure to laser radiation, the CO shall forward a letter via the chain of command to BUMED Code 5322 within 30 days of the incident. This report shall contain a list of personnel exposed, an estimate of the exposure received, and a description of the pathology.

Further clarification of standards and technical assistance may be obtained from BUMED Code 5322 (Autovon 294-4224).

BUMEDNOTE 5200 of 1 July 1975

*Subj: Department of the Navy Management Improvement Program*

The annual Management Improvement Program Report due each July is suspended, pending further guidance from higher authority. Cost reduction actions will continue to be forwarded to BUMED Code 46 for consolidation and submission to the Chief of Naval Material.

BUMEDNOTE 5510 of 1 July 1975

*Subj: Command planning guide for physical security*

This notice promulgates the CNO Command Planning Guide for Physical Security (OPNAV-

NOTE 5510 of 2 April 1975). The guide is not in itself a physical security plan, nor does it contain mandatory requirements; rather, it is designed to help commands formulate adequate and effective physical security plans.

BUMEDINST 6300.7 of 11 July 1975

*Subj: Alcohol Abuse Treatment and Rehabilitation Reporting System*

All medical treatment facilities under BUMED command shall submit quarterly Alcohol Abuse Treatment and Rehabilitation Reports on NAVMED Form 6300/10. The reports should be postmarked no later than 2400 of the fifth working day following the end of the reporting quarter, and shall be sent by air mail to: CO, Naval Medical Data Services Center, National Naval Medical Center, Bethesda, Maryland 20014. Negative reports are required.

The reports include information regarding the number of inpatients and outpatients who entered and who were discharged from treatment for alcohol abuse each quarter. Directions for completing reports are included in the instruction.

BUMEDNOTE 5726 of 14 July 1975

*Subj: Medical exploring*

Medical Department activities are urged to provide full support to the Medical Explorer Program of the Boy Scouts of America, and to establish liaison with scouting council executives listed in the enclosure to this notice. For further information and guidance, contact COMNAVCRUITCOM, Youth Programs Branch Head (Area Code 202) 692-4795 or Autovon 222-4795; or the Navy Liaison Officer, Boy Scouts of America (Area Code 201) 249-6000, Ext. 245.

BUMEDINST 6700.37 of 23 July 1975

*Subj: Management of equipment*

To ensure full use of all equipment, BUMED-managed activities shall, when appropriate, establish equipment pools to be used by services, wards, or activities who do not require such

equipment on a permanent basis. "Walk-through" inspections shall be conducted and documented at least semiannually to identify idle, underused, or unneeded items, which shall be re-assigned or reported for redistribution. All requests for procurement of equipment will be screened against assets on hand and excess/surplus listings; an economic analysis of existing assets will also be accomplished before new equipment is procured.

All surplus medical equipment shall be reported in accordance with BUMEDINST 4500.2B with the exception of:

- Equipment purchased under the U.S. Health Benefits Program for loan to health care beneficiaries. This equipment will be reported directly to BUMED Code 73, who will direct redistribution or disposition.
- Excess equipment at medical and dental research facilities and training facilities. This equipment shall be reported to the CO, Naval Medical Material Support Command, Philadelphia, Pennsylvania, via the Naval Medical Research and Development Command or the Naval Health Sciences Education and Training Command, as appropriate.

The Naval Medical Material Support Command is the only activity authorized to direct transfer of equipment between BUMED-managed activities.

#### BUMEDNOTE 6220 of 29 July 1975

*Subj: Influenza disease and vaccine status, 1975-1976 season*

Influenza vaccine formulation has been changed to reflect a recent slight drift in A<sub>2</sub> influenza virus, and the strain variants that have been isolated in the United Kingdom and Western Europe. The adult dose of 1200 CCA units is contained in 0.5 ml of vaccine now available under National Stock Number 6505-00-130-0465. The bivalent vaccine used last year (NSN 6505-00-133-5757) is also considered adequate immunizing material for the current epidemiologic year. Other bivalent or monovalent influenza vaccines, however, are *not* considered adequate for immunization, and existing stocks should be surveyed.

Bivalent influenza vaccine is mandatory for Alert Forces, recruits, and others cited in BUMEDINST 6230.1G. Voluntary influenza immunization of other active-duty personnel and

their dependents is strongly encouraged. Dependent children may receive vaccine upon the recommendation of their physician, and in accordance with the immunization schedule set forth in this notice.

The recommendations provided in the manufacturer's package insert should be read carefully before any vaccine is administered.

#### BUMEDINST 6710.60 Change Transmittal 1 of 30 July 1975

*Subj: Manufacturers' credit plans*

These manufacturers and credit plans are approved for participation: Cephalosporin Savings Plan (Eli Lilly and Co.), "Ancef" Bonus/Rebate Plan (Smith, Kline & French Laboratories), and Allowance Plan for Hospitals (Winthrop Laboratories).

#### BUMEDNOTE 6620 of 19 August 1975

*Subj: Topical fluoride and general dental treatments*

This notice emphasizes the need to maintain oral health among Navy and Marine Corps personnel in order to help maintain operational readiness. All Navy and Marine Corps personnel will receive a topical fluoride treatment annually, and prior to deployment or transfer to activities or areas where maximum dental support is not available. In addition, personnel identified as requiring early dental treatment will receive priority attention.



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